

FHWA-Indiana Environmental Document  
**CATEGORICAL EXCLUSION / ENVIRONMENTAL ASSESSMENT FORM**  
 GENERAL PROJECT INFORMATION

<b>Road No./County:</b>	<b>US 231 at Cline Ave./Lake Co.</b>
<b>Designation Number(s):</b>	<b>1700022</b>
<b>Project Description/Termini:</b>	<b>Intersection Improvement:</b> US 231: from 0.22 mi W. to 0.18 mi. E. of the intersection. Cline Ave: from 0.13 mi. N. to 0.12 mi. S of the intersection.

	<b>Categorical Exclusion, Level 2</b> – Required Signatories: INDOT DE and/or INDOT ESD
<b>X</b>	<b>Categorical Exclusion, Level 3</b> – Required Signatories: INDOT ESD
	<b>Categorical Exclusion, Level 4</b> – Required Signatories: INDOT ESD and FHWA
	<b>Environmental Assessment (EA)</b> – Required Signatories: INDOT ESD and FHWA
	<b>Additional Investigation (AI)</b> – The proposed action included a design change from the original approved environmental document. Required Signatories must include the appropriate environmental approval authority

**Approval**

<u>N/A</u> INDOT DE Signature and Date	 April 4, 2023 INDOT ESD Signature and Date
<u>N/A</u> FHWA Signature and Date	

**Release for Public Involvement**

<u>N/A</u> INDOT DE Initials and Date	 01/07/2022 INDOT ESD Initials and Date
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**Certification of Public Involvement**

 08/24/2022 INDOT Consultant Services Signature and Date
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**INDOT DE/ESD Reviewer Signature and Date:**

 04/04/2023
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**Name and Organization of CE/EA Preparer:** James Landry, The Troyer Group.

# Indiana Department of Transportation

County Lake

Route US 231

Des. No. 170022

## Part I – Public Involvement

Every Federal action requires some level of public involvement, providing for early and continuous opportunities throughout the project development process. **The level of public involvement should be commensurate with the proposed action.**

Does the project have a historic bridge processed under the Historic Bridges PA*?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If No, then: Opportunity for a Public Hearing Required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

\*A public hearing is required for all historic bridges processed under the Historic Bridges Programmatic Agreement between INDOT, FHWA, SHPO, and the ACHP.

Discuss what public involvement activities (legal notices, letters to affected property owners and residents (i.e. notice of entry), meetings, special purpose meetings, newspaper articles, etc.) have occurred for this project.

### Notice of Entry

Notice of Entry letters were mailed to potentially affected property owners near the project area on December 3, 2019 notifying them about the project and that individuals responsible for land surveying and field activities may be seen in the area. A sample copy of the Notice of Entry letter is included in Appendix G-1.

### Section 106

To meet the public involvement requirements of Section 106, a legal notice of FHWA's finding of "No Adverse Effect" was published in the Northwest Indiana Times newspaper on June 15, 2021 offering the public an opportunity to submit comment pursuant to 36 CFR 800.2(d), 800.3(e), and 800.6(a)(4). The public comment period closed after 30 days, no later than July 16, 2021. The text of the public notice and the affidavit of publication appear in Appendix D-105. No comments were received from the public.

### Project Does Meet

The project met the minimum requirements described in the current *Project Development Public Involvement Procedures Manual* which requires the project sponsor to offer the public an opportunity to submit comment and/or request a public hearing. However, given the anticipated public concern with a roundabout being constructed along a state route, INDOT LaPorte District decided to forego the offering of a public hearing, and instead arranged a public hearing without first offering one via a legal notice.

A legal notice of a public hearing was advertised in the *Northwest Indiana Times* on February 18 and 25, 2022. The legal notice can be found in Appendix G-2, while the proof of publication is located in Appendix G-5. The advertisement announced the project type and the time, date, and location of the hearing. The notice of public hearing was sent to affected property owners. A list of the owners to which the notice was sent can be found in Appendix G-5.

The public hearing was held by INDOT LaPorte District's communication staff in coordination with Troyer Group on March 9, 2022 at 6:00 pm (CST), at the Suncrest Church, 10009 Parrish Ave, St John, IN 46373. There were approximately 55 attendees in total plus 7 INDOT personnel and four design consultant representatives. The sign-in sheets can be found in Appendix G-13. A presentation was given by INDOT and the design consultant. Handouts to the attendees can be found in Appendix G-21. Handouts included instructions for providing comments, a preliminary project illustration, and copies of the presentation slides. Attendees were invited to sign up as speakers to submit official comments. 11 speakers signed up, including two elected officials; All of the attendees who signed up provided official comment during the hearing, and 7 additional attendees provided comments after the floor was opened up for final comments. The speakers schedule can be found in Appendix G-19, and the official hearing transcript can be found in Appendix G-69. Written comments were also accepted for a period of 15 days following the public hearing. Written comments were received from 16 members of the public in the days before and after the hearing, which can be found in Appendix G-84 through G-119.

The attendees who provided comment during the public hearing were largely not in favor of the proposed roundabout, and indicated preference for a signalized intersection with turn lanes. Arguments against the roundabout were varied, but some common concerns included worries about increased crash frequency and greater queue distance, leading to increased travel times to get through the intersection. According to the Engineer's Report, crash frequency, queue distances, and travel time are all expected to decrease with the proposed alternative (Appendix I-3). Additionally, some concerns over the project drainage were raised, particularly by adjacent property owners. A detailed hydraulic analysis was used to design the project drainage in a manner that sufficiently drains water around the proposed roundabout. A full set of plans were sent to the Lake County Drainage Board by way of the County Surveyor's office on December 12, 2022 (Appendix I-33). The Surveyor responded on January 12, 2023 requesting additional information (Appendix I-29). Communication with the Drainage Board is ongoing at this time and will continue throughout the project process. Despite the opposition at the hearing, responses that were received both before and after were more mixed. While there were still

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some negative comments, largely for the same reasons brought up in the hearing, several of the commenters supported the proposed roundabout.

In addition to these comments, some specific project-related concerns were brought up both during the hearing and in comments received afterwards. During the hearing, the Barman family raised concerns about potential impacts to field tiles in the adjacent farm fields. All field tiles will be avoided during construction, and if any are unintentionally impacted, the contractor will notify the INDOT project manager, who will contact the owner of the associated farm field. This is a firm project commitment. After the hearing, the Lake County Surveyor's Office submitted a written comment calling attention to a Section Corner Monument located within the project area (Appendix G-94). This monument will be reset at the same coordinates, with a new elevation, during construction. This is a firm project commitment. All public comments are included in Appendix G-84 through G-119, and corresponding INDOT responses are included in Appendix G-120 through G-134. There have been no design changes as a result of any public comments. However, firm commitments have been added to the project during the public involvement period, and can be found in the commitments section of this document.

### Public Controversy on Environmental Grounds

*Discuss public controversy concerning community and/or natural resource impacts, including what is being done during the project to minimize impacts.*

#### **Public Controversy**

##### **Historic Properties:**

Controversy surrounding this project has arisen in part due to potential impacts to a historic property. The property in question is a historic farm property owned by Mr. Donald Barman. For more information on this property, see the Cultural Resources section of this document, Section D. As a result of potential impacts to his property, Mr. Barman was invited to become a consulting party for the Section 106 process. After it was determined that the project may result in an adverse effect on the property, the project was redesigned to avoid any ROW acquisition or construction within the limits of the historic farm. Despite this redesign, Mr. Barman has continued to make his opposition to the project known. Mr. Barman's opposition stems, at least in part, from a roundabout being identified as the preliminary preferred alternative. In addition to the historic farm, Mr. Barman owns multiple properties adjacent to the project area and has erected signs opposing the project on them. Mr. Barman has also contacted a State Congress Member, Senator Rick Niemeyer, for his district to voice his opposition to the project. This congress member subsequently distributed letters to multiple figures within INDOT expressing concern with the project and reiterating Mr. Barman's opposition. Mr. Barman and Senator Niemeyer were both in attendance at the public hearing for the project and provided feedback during the public comment portion. This feedback and the INDOT response to it is included in this document in Appendix G-124 and G-125. As an adjacent landowner and consulting party, Mr. Barman will be included on further communication throughout project development.

##### **Safety:**

During the public comment period, several members of the public raised concerns about the potential safety of a roundabout at this intersection, particularly during times of peak traffic. These comments are summarized in Appendix G-120 through G-134. According to the Engineer's Report (Appendix I-3), even during heavy traffic the preferred alternative is expected to decrease vehicular queue distance and crash frequency, thereby increasing overall safety. Therefore, despite the public concerns, no design changes are being implemented.

##### **Drainage:**

The Barman family, the owners of the historic property adjacent to the project area, and other members of the public expressed concerns regarding the proposed drainage for the project area, and the potential for the project to negatively impact stormwater drainage in the vicinity. The Barmans' comments are found in Appendix G-86 and other comments on drainage can be found in Appendix G-120 through G-134. A detailed hydraulic analysis was used to design the project drainage in a manner that sufficiently drains water around the proposed roundabout. A full set of plans were sent to the Lake County Drainage Board by way of the County Surveyor's office on December 12, 2022 (Appendix I-33). The Surveyor responded on January 12, 2023 requesting additional information (Appendix I-29). Communication with the Drainage Board is ongoing at this time and will continue throughout the project process.

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### Part II - General Project Identification, Description, and Design Information

Sponsor of the Project: INDOT INDOT District: LaPorte

Local Name of the Facility: W. 109<sup>th</sup> Ave. (US 231), Cline Ave.

Funding Source (mark all that apply): Federal  State  Local  Other\*

\*If other is selected, please identify the funding source: \_\_\_\_\_

#### **PURPOSE AND NEED:**

*The need should describe the specific transportation problem or deficiency that the project will address. The purpose should describe the goal or objective of the project. The solution to the traffic problem should NOT be discussed in this section.*

##### **Need**

From October 2012 through September 2015, 36 crashes involving 78 vehicles occurred at the intersection, eight of which produced injuries. Approximately 22% of the crashes resulted in personal injury. Of these 36 crashes, 24 were rear end type crashes, 20 of which were confirmed to have occurred on US 231. This indicates a pattern of this type of crash. Additionally, there were seven left turn type crashes at this intersection during this period. This results in an Intersection Crash Rate of 1.478 crashes per million vehicles entering the intersection per year, which according to the Engineer's Report (Appendix I-7), is at INDOT's safety threshold, indicating that consideration of improvements may be needed. Some contributing factors to this elevated rate identified in the Engineer's Report include confusion for left-turning vehicles from the use of shoulders as passing blisters, and the vehicular queue distance.

Level of Service (LOS) is a rating system for traffic congestion that analyzes roadways and intersections by categorizing traffic flow and assigning quality levels based on performance measures like vehicle speed, density, congestion, and other factors. A summary of the grade associated to each level of service is listed below:

- LOS A – free flow traffic
- LOS B – reasonable free flow
- LOS C – stable flow, or at near free flow
- LOS D – approaching unstable flow
- LOS E – unstable flow, operating at capacity
- LOS F – breakdown in flow or gridlock.

Based on an analysis from 2017 (Appendix I-8), LOS levels for this intersection vary from LOS A to LOS D depending on the direction and type of movement through the intersection. The lowest LOS levels are for north-south traffic on Cline Ave. Northbound traffic turning left from Cline Ave. onto US 231 currently operates at an LOS D, while other Cline Ave. traffic operates at LOS C. East-west traffic on US 231 typically operates at more stable LOS A and B levels, although westbound US 231 traffic turning left onto Cline Ave. has fallen to an LOS C. Based on an expected annual growth factor of 0.5% per year, it is likely that by the design year of 2042, the LOS for each approach will deteriorate further, with multiple approaches falling into the unstable categories of LOS D or below.

##### **Purpose**

The purpose of this project is to increase the overall safety of the intersection by both reducing the overall crash rate and minimizing opportunities for crash types that have been shown to lead to injury-causing crashes at higher rates, like left-turn crashes. Additionally, the project will maintain or improve the LOS value for the intersection to a level of C or greater through the design year.

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## PROJECT DESCRIPTION (PREFERRED ALTERNATIVE):

County: Lake Municipality: St. John

Limits of Proposed Work: US 231 from 0.22 mi W. to 0.18 mi. E. of the intersection and Cline Ave. from 0.13 mi. N. to 0.12 mi. S of the intersection.

Total Work Length: 0.38 Mile(s) Total Work Area: 10.26 Acre(s)

Is an Interstate Access Document (IAD)<sup>1</sup> required?

If yes, when did the FHWA provide a Determination of Engineering and Operational Acceptability?

Yes<sup>1</sup> No

Date:

<sup>1</sup>If an IAD is required; a copy of the approved CE/EA document must be submitted to the FHWA with a request for final approval of the IAD.

Describe location of project including township, range, city, county, roads, etc. Existing conditions should include current conditions, current deficiencies, roadway description, surrounding features, etc. Preferred alternative should include the scope of work, anticipated impacts, and how the project will meet the Purpose and Need. Logical termini and independent utility also need discussed.

### **Funding/Federal Involvement:**

This project was programmed into the Fiscal Year (FY) 2018-2021 Statewide Transportation Improvement Program (STIP) to receive federal funds. However, prior to acceptance of the 2020-2024 STIP, the funding source was changed from federal funds to state-provided Toll-Lease Amendment Proceeds (TLAP). This change was carried over into the 2022-2026 Northwestern Indiana Regional Planning Commission (NIRPC) Metropolitan Planning Organization Transportation Improvement Program (MPO TIP), which was directly incorporated into the 2022-2026 STIP. On September 27, 2021, NIRPC modified their 2022-2026 TIP through Amendment 22-53 to move the construction funding for the project from the FY 22 TLAP to the FY 23 Non-Interstate National Highway Performance Program (NHPP). State funds from the TLAP and NHPP have been used from FY 2018 through FY 2023 for Engineering and Right-of-Way (ROW) acquisition. Moving forward, due to the conclusion of the specific programs providing State funds, the project will utilize federal funding from the Federal Highway Association (FHWA). These funds will be allotted to FY 2025 and will be used for project construction. This change was reflected in NIRPC TIP Amendment 22-58.

### **Location:**

The project is located at the intersection of US 231 and Cline Ave. in the town of St. John, Lake County, IN, Hanover and Center Townships, in sections 2, 3, 10, and 11, Township 34 N., Range 9 W. A project location map is located in Appendix B-1 and a USGS topographic map is located in Appendix B-2. Additional aerial photographs and ground level photographs are attached in Appendix B-3 through Appendix B-8.

### **Existing Conditions:**

US 231 is an Other Principal Arterial that runs east-west through the project area, while Cline Ave. is a Minor Arterial that runs north-south. Both roadways consist of two travel lanes with no dedicated turn lanes. The intersection is four way signalized intersection with an actuated two-phase controller. Shoulder widths vary from 1.5 to 3 ft. through the project area, but are not wide enough at the intersection to act as turn lanes or passing blisters.

U.S. 231 is approximately 28 ft. of composite pavement. The roadway consists of 12-ft travel lanes with 2-ft paved and 3-ft usable shoulders. There are no curbs or sidewalks on this section of roadway. The apparent existing R/W is 35 ft. from the centerline of U.S. 231 and 25 ft. from the centerline of Cline Avenue. Cline Avenue consists of two 10-ft travel lanes with 1.5-ft paved and usable shoulders. The project area is set in a primarily agricultural area.

### **Preferred Alternative:**

The preferred alternative involves the installation of a two-lane roundabout at the intersection. Traffic on US 231 will utilize two approaches, one for each lane of the roundabout, while Cline Ave. will be limited to a single approach. The roundabout lanes will be 16 ft. wide, with 10 to 24-ft truck aprons between the travel lanes and the center island. Concrete splitters will be installed at each approach to better direct traffic flow. Additional grading will be done, at the request of the INDOT district, in the northwest and southeast quadrants to allow for the possibility of right-turn bypasses being added to Cline Ave. at a future date. No paving will be done in these areas as part of this project.

In order to accommodate stormwater drainage within the proposed roundabout, the existing storm sewer network will be improved.

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The existing storm sewer pipes will be replaced in a configuration that diverts water around the proposed roundabout. Storm sewer improvements will be limited to the minimum area needed to accommodate the project and will not include improvements outside of the project area. In addition, six culvert structures within the intersection, ranging from 12 to 24 inches in diameter, will have end sections matching the existing diameters installed to extend the structures. Permanent lighting around the intersection will be reconfigured to accommodate the proposed roundabout. See Appendix B-8 through B-39 for design plans.

**Logical Termini/Independent Utility:**

The project termini are set as close to the center of the intersection as possible while still allowing for proper intersection geometry. While additional grading has been included to allow for the potential for future work on this intersection, no project to perform this additional work has been programmed. The grading is merely intended to not eliminate the possibility of future work, and the roundabout is expected to meet the project's purpose and need without the right-turn bypasses. Therefore, the preferred alternative is sufficient to address the project's purpose and need without additional improvements or relying on other projects and exhibits independent utility.

**Additional Information**

The maintenance of traffic (MOT) plan for this project will be separated into two phases. During phase one, east-west traffic on US 231 will remain open, while Cline Ave will be closed to north-south traffic. A detour using local routes following 101<sup>st</sup> Ave., Parrish St., and 117<sup>th</sup> Ave., will be implemented. This detour is approximately 4.6 miles long and will add roughly five minutes to the average commute. Phase two involves full closure of the intersection and utilization of a detour. The detour will use US 231, US 41, US 30, and SR 55. It will be approximately 16 miles long, and will add 10.5 miles to the average daily commute. This MOT plan is expected to be in place for approximately one construction season, or 8-10 months, with a roughly even breakdown between the two phases. See Appendix B-17 for the MOT plan sheet.

The preferred alternative will meet the project's purpose and need by eliminating the possibility of left-turn accidents and by reducing the vehicle queue length at the intersection, leading to fewer rear-end crashes. According to the Engineer's Report (Appendix I-7), Chapter 53 of the Indiana Design Manual identifies four primary crash reduction methods that are considered the most beneficial, providing adequate channelization, adding auxiliary turn lanes, improving markings and signs, and improving signal systems. This alternative will provide better channelization of vehicles, eliminate the need for intersection signals, and improve pavement markings and signage to guide motorists through the roundabout. All of this should further reduce the frequency of accidents. This alternative will also provide an overall LOS level of A for the intersection, with each individual approach operating at an LOS of B or higher.

**OTHER ALTERNATIVES CONSIDERED:**

*Provide a header for each alternative. Describe all discarded alternatives, including the No Build Alternative. Explain why each discarded alternative was not selected. Make sure to state how each alternative meets or does not meet the Purpose and Need and why.*

1. Widening with Designated Turn Lanes: This alternative would consist of widening the intersection to provide designated left turn lanes for all approaches and right turn lanes on U.S. 231 (Appendix I-8). This alternative would meet the project's purpose and need, but would provide a lower LOS for the intersection and approaches than the preferred alternative. Additionally, to properly reduce the vehicular queue distance for through vehicles on US 231, a second through lane would be required, which was considered both cost prohibitive and more impactful, as it would require more ROW acquisition and result in greater impacts to the historical resources within the project area. Therefore, this alternative was not considered further.
2. Do Nothing: The "no-build" alternative would leave the existing intersection in its current configuration. This would not address the factors that currently lead to an elevated frequency of crashes at the intersection and would allow the intersection's operability to deteriorate below acceptable levels by the design year of 2042. The "no-build" alternative would not have a direct and immediate cost to INDOT, but would shift costs to the motoring public by allowing the elevated frequency of accidents to continue unabated. This would not meet the project's purpose and need, and therefore was not considered further.

**The No Build Alternative is not feasible, prudent or practicable because (Mark all that apply):**

- It would not correct existing capacity deficiencies;
  - It would not correct existing safety hazards;
  - It would not correct the existing roadway geometric deficiencies;
  - It would not correct existing deteriorated conditions and maintenance problems; or
  - It would result in serious impacts to the motoring public and general welfare of the economy.
- Other (Describe):

x
x

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### ROADWAY CHARACTER:

*If the proposed action includes multiple roadways, complete and duplicate for each roadway.*

#### **US 231**

Functional Classification:	<u>Other Principal Arterial</u>		
Current ADT:	<u>15,640</u>	<u>VPD (2016)</u>	Design Year ADT: <u>17,670</u> <u>VPD (2042)</u>
Design Hour Volume (DHV):	<u>1,626</u>	<u>Truck Percentage (%)</u>	<u>3.6</u>
Designed Speed (mph):	<u>50</u>	<u>Legal Speed (mph):</u>	<u>50</u>

#### Existing

#### Proposed

Number of Lanes:	2		2	
Type of Lanes:	Vehicular – 1 EB & 1 WB		Vehicular 1 EB & 1 WB	
Pavement Width:	12	ft.	16-32	ft.
Shoulder Width:	2 paved and 8 usable	ft.	4 paved on approaches, curb in roundabout	ft.
Median Width:	N/A	ft.	1-25 splitter	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting:	<input type="checkbox"/> Urban	<input type="checkbox"/> Suburban	<input checked="" type="checkbox"/> Rural
Topography:	<input checked="" type="checkbox"/> Level	<input type="checkbox"/> Rolling	<input type="checkbox"/> Hilly

#### **Cline Ave.**

Functional Classification:	<u>Minor Arterial</u>		
Current ADT:	<u>6,190 N/ 3,410 S</u>	<u>VPD (2016)</u>	Design Year ADT: <u>6,990 N/3,620 S</u> <u>VPD (2042)</u>
Design Hour Volume (DHV):	<u>713 N/486 S</u>	<u>Truck Percentage (%)</u>	<u>2.6 N/ 3.3 S</u>
Designed Speed (mph):	<u>40 N / 30 S</u>	<u>Legal Speed (mph):</u>	<u>40 N/30 S</u>

#### Existing

#### Proposed

Number of Lanes:	2		2	
Type of Lanes:	Vehicular – 1 NB & 1 SB		Vehicular – 1 NB & 1 SB	
Pavement Width:	12	ft.	12-20.5	ft.
Shoulder Width:	2 paved and 6 usable	ft.	4 paved on approaches, curb in roundabout	ft.
Median Width:	N/A	ft.	1-25 splitter	ft.
Sidewalk Width:	N/A	ft.	N/A	ft.

Setting:	<input type="checkbox"/> Urban	<input type="checkbox"/> Suburban	<input checked="" type="checkbox"/> Rural
Topography:	<input checked="" type="checkbox"/> Level	<input type="checkbox"/> Rolling	<input type="checkbox"/> Hilly

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### BRIDGES AND/OR SMALL STRUCTURE(S):

If the proposed action includes multiple structures, complete and duplicate for each bridge and/or small structure. Include both existing and proposed bridge(s) and/or small structure(s) in this section.

Structure/NBI Number(s): N/A Sufficiency Rating: N/A  
(Rating, Source of Information)

	Existing		Proposed
Bridge/Structure Type:			
Number of Spans:			
Weight Restrictions:		ton	
Height Restrictions:		ft.	
Curb to Curb Width:		ft.	
Outside to Outside Width:		ft.	
Shoulder Width:		ft.	

Describe impacts and work involving bridge(s), culvert(s), pipe(s), and small structure(s). Provide details for small structure(s): structure number, type, size (length and dia.), location and impacts to water. Use a table if the number of small structures becomes large. If the table exceeds a complete page, put it in the appendix and summarize the information below with a citation to the table.

#### Presence

There are 18 structures present within the project area. Of these, three are 24-in pipes. Out of the remaining structures, one is a 4-in pipe, one is an 8-in pipe, one is a 10-in pipe, and the remaining pipes vary from 12 to 15 inches. None of the structures are historic. The three 24-in. pipes and seven of the 12 to 15-in pipes will have end sections placed at each end of the structure matching the existing dimensions, in order to extend them. Two of the remaining 12-in pipes will be left in place and protected during construction. Approximately 23.5 ft. of the 4-in pipe will be removed, allowing the structure to outlet into a proposed roadside ditch that will be constructed. The rest of the structures will be removed during construction. Additionally, the existing storm sewer network will be reconfigured to accommodate the revised intersection geometry. Storm sewer improvements will be limited to the minimum area needed to accommodate the project and will not include improvements outside of the project area. For a list of the existing structures and the proposed construction activities impacting them, see Appendix B-38.

### MAINTENANCE OF TRAFFIC (MOT) DURING CONSTRUCTION:

	Yes	No
Is a temporary bridge proposed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is a temporary roadway proposed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Will the project involve the use of a detour or require a ramp closure? (describe below)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made for access by local traffic and so posted.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made for through-traffic dependent businesses.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Provisions will be made to accommodate any local special events or festivals.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Will the proposed MOT substantially change the environmental consequences of the action?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is there substantial controversy associated with the proposed method for MOT?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discuss closures and/or facilities (if any) that will be provided for maintenance of traffic. Any known impacts from these temporary measures should be quantified to the extent possible, particularly with respect to properties such as Section 4(f) resources and wetlands. Any local concerns about access and traffic flow should be detailed as well.

The maintenance of traffic (MOT) plan for this project will be separated into two phases. During phase one, east-west traffic on US 231 will remain open, while Cline Ave will be closed to north-south traffic. A detour using local routes following 101<sup>st</sup> Ave., Parish St., and 117<sup>th</sup> Ave., will be implemented. This detour is approximately 4.6 miles long and will add roughly five minutes to the average commute. Phase two involves full closure of the intersection and utilization of a detour. The detour will use US 231, US 41, US 30, and SR 55. It will be approximately 16 miles long, and will add 10.5 miles to the average daily commute. This MOT plan is expected to be in place for approximately one construction season, or 8-10 months, with a roughly even breakdown between the two phases. See Appendix B-17 for the MOT plan sheet.

The closures/lane restrictions will pose a temporary inconvenience to traveling motorists (including school buses and emergency

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services); however, no significant delays are anticipated, and all inconveniences will cease upon project completion. Delays may occur during construction but will cease with project completion.

### ESTIMATED PROJECT COST AND SCHEDULE:

Engineering: \$ 190,422 (2019, State) Right-of-Way: \$ 54,000 (2019, State) Construction: \$ 4,535,000 (2025)

Anticipated Start Date of Construction: Spring 2025

### RIGHT OF WAY:

Land Use Impacts	Amount (acres)	
	Permanent	Temporary
Residential	0.183	0
Commercial	0	0
Agricultural	7.155	0
Forest	0	0
Wetlands	1.029	0
Other: ROW Reacquisition*	1.748	0
Other: N/A	-	-
<b>TOTAL</b>	<b>8.367</b>	<b>0</b>

*Describe both Permanent and Temporary right-of-way and describe their current use. Typical and Maximum right-of-way widths (existing and proposed) should also be discussed. Any advance acquisition, reacquisition or easements, either known or suspected, and their impacts on the environmental analysis should be discussed.*

#### **Right-of-way (ROW) required**

The project requires approximately 8.367 acres of permanent ROW. The project does not require any temporary ROW acquisition. There will be approximately 1.748 acres of ROW reacquisition in areas within the current travel corridor that lack clear title. Existing ROW to be reacquired consists of the paved US 231 and Cline Avenue roadways, along with the paved shoulders and vegetated side slopes. Adjacent ROW to be acquired consists mostly of agricultural land, with 0.183 acre coming from a residential property at the western edge of the project area, and 1.029 acres coming from a wetland area in the southwestern quadrant of the intersection.

As of the writing of this document, ROW for one parcel, a total of 0.241 acre, has been acquired by INDOT. Two parcels are in the legal phase of the acquisition process, and the remaining four are awaiting further hydraulic information prior to continuing the acquisition process. All acquisition will be completed entirely using State funds.

If the scope of work or permanent or temporary right-of-way amounts change, the INDOT Environmental Services Division (ESD) and the INDOT District Environmental Section will be contacted immediately.

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**Part III – Identification and Evaluation of Impacts of the Proposed Action**

**SECTION A - EARLY COORDINATION:**

List the date(s) coordination was sent and all resource agencies that were contacted as a part of the development of this Environmental Study. Also, include the date of their response or indicate that no response was received.

Early coordination letters were sent on July 10, 2020 (Appendix C-1).

<b>AGENCY:</b>	<b>DATE SENT:</b>	<b>DATE RESPONSE RECEIVED:</b>	<b>APPENDIX</b>
Indiana Department of Environmental Management	7/10/2020	7/30/2020	Appendix C-11
Indiana Geological Survey	7/10/2020	7/28/2020	Appendix C-8
National Park Service, Midwest Regional Office	7/10/2020	No Response	-
Indiana Department of Natural Resources, Division of Fish and Wildlife	7/10/2020	8/7/2020	Appendix C-17
Federal Highway Administration	7/10/2020	No Response	-
US Department of Housing & Urban Development, Chicago Regional Office	7/10/2020	No Response	-
Indiana Department of Transportation, Public Involvement Office	7/10/2020	No Response	-
U.S. Fish and Wildlife Service, Northern Indiana Sub-Office	7/10/2020	7/24/2020	Appendix C-4
Department of the Army, Chicago District, Corps of Engineers	7/10/2020	No Response	-
Northwestern Indiana Regional Planning Commission	7/10/2020	No Response	-
INDOT LaPorte District - Environmental Section Manager	7/10/2020	No Response	-
Indiana State Senator – District 6	7/10/2020	No Response	-
Lake County Highway Superintendent	7/10/2020	No Response	-
Lake County Surveyor	7/10/2020	No Response	-
Lake County Board of Commissioners	7/10/2020	No Response	-
Town of St. John Council, Ward 2	7/10/2020	No Response	-
Town of St. John MS4 Coordinator	7/10/2020	No Response	-
Town of St. John Town Manager	7/10/2020	No Response	-
US Department of Agriculture, National Resources Conservation Service	7/10/2020	7/27/2020	Appendix C-6

All applicable recommendations are included in the Environmental Commitments section of this CE document.

## Indiana Department of Transportation

County Lake

Route US 231

Des. No. 170022

**SECTION B – ECOLOGICAL RESOURCES:**

**Streams, Rivers, Watercourses & Other Jurisdictional Features**

- Federal Wild and Scenic Rivers
- State Natural, Scenic or Recreational Rivers
- Nationwide Rivers Inventory (NRI) listed
- Outstanding Rivers List for Indiana
- Navigable Waterways

**Presence**


**Impacts**

Yes	No

Total stream(s) in project area: \_\_\_\_\_ Linear feet      Total impacted stream(s): \_\_\_\_\_ Linear feet

*Describe all streams, rivers, watercourses and other jurisdictional features adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if the streams or rivers are listed on any federal or state lists for Indiana. Include if features are subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.*

**No presence, no impact**

Based on a desktop review, a site visit on May 24, 2019 by Cardno Inc., the aerial map of the project area (Appendix B-3), and the water resource map in the Red Flag Investigation (RFI) report (Appendix E-8) there are five streams and two Indiana Department of Environmental Management (IDEM) 303d listed streams within the 0.5 mile search radius. No streams, rivers, watercourses, or jurisdictional ditches are present within the project area, therefore, no impacts are expected.

**Waters Report**

A Waters of the U.S. Determination / Wetland Delineation Report was approved by INDOT Ecology and Waterway Permitting Office (EWPO) on July 6, 2020. Please refer to Appendix F-1 for the Waters of the U.S. Report. It was determined that no jurisdictional waterways are present within the project area. The U.S. Army Corps of Engineers (USACE) makes all final determinations regarding jurisdiction.

**Early Coordination**

IDNR DFW responded on August 7, 2020 with a recommendation to properly protect and reseed any impacted streambanks within the project area (Appendix C-17). However, no streambanks are present within the project area.

**Open Water Feature(s)**

- Reservoirs
- Lakes
- Farm Ponds
- Retention/Detention Basin
- Storm Water Management Facilities
- Other: \_\_\_\_\_

**Presence**


**Impacts**

Yes	No

*Describe all open water feature(s) identified adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if features are subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.*

**No presence, no impact**

Based on a desktop review, a site visit on May 24, 2019 by Cardno Inc., the aerial map of the project area (Appendix B-3), and the water resource map in the Red Flag Investigation (RFI) report (Appendix E-8) there are no other surface waters within the 0.5 mile search radius. However, the project area is located within the Lake Michigan Coastal Program's Boundary. The project will qualify for a USACE General Permit, which exempts it from a Federal Consistency review by the IDNR Coastal Program.

**Waters Report**

A Waters of the U.S. Determination / Wetland Delineation Report was approved by INDOT EWPO on July 6, 2020. Please refer to Appendix F-1 for the Waters of the U.S. Report. It was determined that no jurisdictional surface waters are present within the project area. The USACE makes all final determinations regarding jurisdiction.

## Indiana Department of Transportation

County Lake Route US 231 Des. No. 170022

### Early Coordination

IDNR DFW responded on August 7, 2020 with recommendations to properly implement erosion and sediment control procedures to avoid runoff to any nearby surface waters (Appendix C-17). However, no surface waters are present within the immediate project vicinity.

	<b>Presence</b>	<b>Impacts</b>	
	<input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<b>Wetlands</b>			
Total wetland area: <u>1.49</u> Acre(s)	Total wetland area impacted: <u>0.97</u> Acre(s)		

(If a determination has not been made for non-isolated/isolated wetlands, fill in the total wetland area impacted above.)

Wetland No.	Classification	Total Size (Acres)	Impacted Acres	Comments
Wetland 1	Palustrine Emergent (PEM)	1.49	0.97	Wetland 1 is an emergent wetland in the southwest quadrant of the project area. It is a poor-quality, jurisdictional wetland. Approximately 0.97 acre of the wetland will be impacted. See below for further details.

<p><b>Wetlands</b> (Mark all that apply)</p> <p>Wetland Determination <input checked="" type="checkbox"/></p> <p>Wetland Delineation <input checked="" type="checkbox"/></p> <p>USACE Isolated Waters Determination <input type="checkbox"/></p>	<p><b>Documentation</b></p> <table border="1" style="margin: auto;"> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td></tr> <tr><td style="text-align: center;"><input checked="" type="checkbox"/></td></tr> <tr><td style="text-align: center;"><input type="checkbox"/></td></tr> </table>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p><b>ESD Approval Dates</b></p> <table border="1" style="margin: auto;"> <tr><td style="text-align: center;"><b>July 6, 2020</b></td></tr> <tr><td style="text-align: center;"><b>July 6, 2020</b></td></tr> <tr><td style="text-align: center;"> </td></tr> </table>	<b>July 6, 2020</b>	<b>July 6, 2020</b>	
<input checked="" type="checkbox"/>								
<input checked="" type="checkbox"/>								
<input type="checkbox"/>								
<b>July 6, 2020</b>								
<b>July 6, 2020</b>								

**Improvements that will not result in any wetland impacts are not practicable because such avoidance would result in** (Mark all that apply and explain):

- |   |                                     |
|---|-------------------------------------|
| Substantial adverse impacts to adjacent homes, business or other improved properties; | <input checked="" type="checkbox"/> |
| Substantially increased project costs;  | <input type="checkbox"/>            |
| Unique engineering, traffic, maintenance, or safety problems;                         | <input type="checkbox"/>            |
| Substantial adverse social, economic, or environmental impacts, or                    | <input checked="" type="checkbox"/> |
| The project not meeting the identified needs.   | <input type="checkbox"/>            |

Describe all wetlands identified adjacent or within the project area. Include whether or not impacts (both permanent and temporary) will occur to the features identified. Include if features are subject to federal or state jurisdiction. Discuss measures to avoid, minimize, and mitigate if impacts will occur.

### Presence, with impacts less than one acre

Based on a review of the National Wetlands Inventory (NWI) online mapper (<https://www.fws.gov/wetlands/data/Mapper.html>), a site visit on May 24, 2019 by Cardno Inc., the USGS topographic map (Appendix B-2), and the RFI report (Appendix E) there are eight wetlands located within the 0.5 mile search radius. There is one wetland, Wetland 1, present within the project area.

Wetland 1 is an emergent wetland located within a concave depression in the southwest quadrant of the project area. Stormwater runoff from US 231 and Cline Ave congregates in this area and is the primary source of the wetland's hydrology. It is largely dominated by invasive species, and is therefore a poor-quality wetland. Wetland 1 connects to an unnamed tributary (UNT) to Main Beaver Dam Ditch outside the project area through roadside and subsurface drainage, making it a jurisdictional wetland. Approximately 0.97 acre of this wetland will be impacted by grading and the placement of clean fill material in order to construct components of the southwest portion of the proposed roundabout, including pavement for the roadway and shoulder, curb and gutter construction, and a portion of the center island. These impacts are anticipated to be permitted by the USACE and IDEM through the 401/404 permitting process. Mitigation is expected for these impacts, and will likely be accomplished through the purchasing of credits from the Indiana Stream and Wetland Program (INSWMP).

Impacts to Wetland 1 have been minimized to the greatest extent possible. Further avoidance or minimization of impacts is not feasible for this project due in part to the presence of a historical property near the northeast quadrant of the project area. Shifting the center of the proposed roundabout any further to the north or east could result in impacts to the historical property, which could in turn result in an adverse effect on its historical value.

## Indiana Department of Transportation

County   Lake   Route   US 231   Des. No.   170022  

### Waters Report

A Waters of the U.S. Determination / Wetland Delineation Report was approved by INDOT EWPO on July 6, 2020. Please refer to Appendix F-1 for the Waters of the U.S. Report. It was determined that one jurisdictional wetland, Wetland 1, is present within the project area. The USACE makes all final determinations regarding jurisdiction.

### Early Coordination

USFWS responded on July 24, 2020, stating that the southwest quadrant of the project area is likely to contain a wetland that would be impacted by the project. (Appendix C-4). IDNR DFW responded on August 7, 2020 with recommendations to properly permit and mitigate for any wetland impacts (Appendix C-17). All applicable recommendations are included in the Environmental Commitments section of this CE document.

	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
<b>Terrestrial Habitat</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Total terrestrial habitat in project area:   10.26   Acre(s)      Total tree clearing:   0   Acre(s)

*Describe types of terrestrial habitat (i.e. forested, grassland, farmland, lawn, etc.) adjacent or within the project area. Include whether or not impacts will occur to habitat identified. Include total terrestrial habitat impacted and total tree clearing that will occur. Discuss measure to avoid, minimize, and mitigate if impacts will occur.*

### Presence, with impacts

Based on a desktop review, a site visit on May 24, 2019 by Cardno, Inc., and the aerial map of the project area (Appendix B-3), there is terrestrial habitat within the project area. Most of the surrounding area consists of agricultural cropland. One emergent wetland exists within the southwest quadrant of the intersection. around the surrounding area primarily consists of residential landscape grasses, agricultural crops, and invasive wetland species like Reed Canary Grass (*Phalaris arundinacea*) and Common Reed (*Phragmites australis*). The only mature trees or shrubs within the project area are located in the northeast quadrant, and appear to be common ornamental landscaping species. These trees will not be cleared. A total of approximately 8 acres of soil disturbance is anticipated to occur as part of this project. Due to the amount of soil disturbance exceeding one acre, a Rule 5 permit is anticipated to be required. No mitigation is expected for this project.

### Early Coordination

IDNR DFW responded on August 7, 2020 with recommendations to properly implement erosion and sediment control procedures and reseed any disturbed areas (Appendix C-17). All applicable recommendations are included in the Environmental Commitments section of this CE document.

### **Protected Species**

#### **Federally Listed Bats**

	<u>Yes</u>	<u>No</u>
Information for Planning and Consultation (IPaC) determination key completed	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Section 7 informal consultation completed (IPaC cannot be completed)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Section 7 formal consultation Biological Assessment (BA) required	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Determination Received for Listed Bats from USFWS:      NE       NLAA       LAA

#### **Other Species not included in IPaC**

	<u>Yes</u>	<u>No</u>
Additional federal species found in project area (based on IPaC species list)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
State species (not bird) found in project area (based upon consultation with IDNR)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### **Migratory Birds**

	<u>Yes</u>	<u>No</u>
Known usage or presence of birds (i.e. nests)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
State bird species based upon coordination with IDNR	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Indiana Department of Transportation

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*Discuss IDNR coordination and species identified. Describe USFWS Section 7 consultation and determination received for Indiana bat and northern long-eared bat impacts. Discuss if other federally listed species were identified. If so, include consultation that has occurred and the determination that was received. Discuss if migratory birds have been observed and any impacts.*

Based on a desktop review and the RFI report (Appendix E), completed by Troyer Group on May 13, 2020, the IDNR Lake County Endangered, Threatened and Rare (ETR) Species List has been checked and is included in (Appendix C, page #). The highlighted species on the list reflect the federal and state identified ETR species located within the county. According to the IDNR-DFW early coordination response letter dated August 7, 2020 (Appendix C-17) the Natural Heritage Program's Database has been checked and plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

### Indiana Bat and Northern Long-Eared Bat

#### **Bats, Programmatic Informal Consultation – Not Likely to Adversely Affect**

Project information was submitted through the USFWS's Information for Planning and Consultation (IPaC) portal, and an official species list was generated (Appendix C-19). The project is within range of the federally endangered Indiana bat (*Myotis sodalis*) and the federally endangered northern long-eared bat (NLEB) (*Myotis septentrionalis*). Other species were found to be present within or adjacent to the project area along with the Indiana bat and northern long-eared bat. Refer to the last paragraph below.

The project qualifies for the *Range-wide Programmatic Informal Consultation for the Indiana bat and northern long-eared bat (NLEB)*, dated May 2016 (revised February 2018), between FHWA, Federal Railroad Administration (FRA), Federal Transit Administration (FTA), and USFWS. An effect determination key was completed on July 30, 2020 and based on the responses provided, the project was found to "May Affect – Not Likely to Adversely Affect" the Indiana bat and/or the NLEB. INDOT reviewed and verified the effect finding on August 7, 2020, and requested USFWS's review of the finding (Appendix C-26). No response was received from USFWS within the 14-day review period; therefore, it was concluded they concur with the finding. Avoidance and Mitigation Measures (AMMs) are included as firm commitments in the *Environmental Commitments* section of this document.

The official species list generated from IPaC indicated one other species present within the project area, Mead's Milkweed (*Asclepias meadii*). The project does not qualify for the USFWS Interim Policy. An early coordination letter was sent to USFWS on July 10, 2020. The USFWS response, dated July 24, 2020, stated that while the project area is near a site supporting the milkweed, none is present within the project area, and no impacts are expected (Appendix C-4). The USFWS also highlighted the presence of the endangered Piping Plover (*Charadrius melodus*), Karner Blue Butterfly (*Lycaeides melissa samuelis*), Rusty Patched Bumble Bee (*Bombus affinis*), Rufa Red Knot (*Calidris canutus rufa*), and Pitcher's Thistle (*Cirsium pitcher*). However, there is no habitat for any of these species within the project area. Therefore, no impacts are expected.

### Geological and Mineral Resources

- Project located within the Potential Karst Features Area of Indiana
- Karst features identified within or adjacent to the project area
- Oil/gas or exploration/abandoned wells identified in the project area

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Date Karst Study/Report reviewed by INDOT EWPO (if applicable): \_\_\_\_\_

*Discuss if project is located in Potential Karst Features Area of Indiana and if any karst features have been identified in the project area (from RFI). Discuss response received from IGWS coordination. Discuss if any mines, oil/gas, or exploration/abandoned wells were identified and if impacts will occur. Describe if any impacts will occur to any karst features. Include discussion of karst study/report was completed and results. (Karst investigation must comply with the current Karst MOU and coordinated and reviewed by INDOT EWPO)*

#### **Outside karst area**

Based on a desktop review, the project is located outside the designated karst region of Indiana as outlined in the October 13, 1993 Memorandum of Understanding (MOU). According to the topo map of the project area (Appendix B, page 2), the RFI report (Appendix E), there are no karst features identified within or adjacent to the project area. In the early coordination response, the Indiana Geological Survey (IGS) did not indicate that karst features exist in the project area (Appendix C-8). The IGS response stated that the site has moderate liquefaction potential, high bedrock resource potential, and low sand or gravel resource potential. Response from IGS has been communicated with the designer on July 28, 2020. No impacts are expected.

## Indiana Department of Transportation

County Lake

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### SECTION C – OTHER RESOURCES

	<u>Presence</u>	<u>Impacts</u>	
		Yes	No
<b>Drinking Water Resources</b>			
Wellhead Protection Area(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Source Water Protection Area(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Well(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urbanized Area Boundary	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Public Water System(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the project located in the St. Joseph Sole Source Aquifer (SSA):		<input type="checkbox"/>	<input type="checkbox"/>
If Yes, is the FHWA/EPA SSA MOU Applicable?		<input type="checkbox"/>	<input type="checkbox"/>
If Yes, is a Groundwater Assessment Required?		<input type="checkbox"/>	<input type="checkbox"/>

*Check the appropriate boxes and discuss each topic below. Provide details about impacts and summarize resource-specific coordination responses and any mitigation commitments. Reference responses in the Appendix.*

#### **Sole Source Aquifer**

##### **Outside of Sole Source Aquifer (SSA)**

The project is located in Lake County, which is not located within the area of the St. Joseph Sole Source Aquifer, the only legally designated sole source aquifer in the state of Indiana. Therefore, the FHWA/EPA Sole Source Aquifer Memorandum of Understanding (MOU) is not applicable to this project. Therefore, a detailed groundwater assessment is not needed and no impacts are expected.

#### **Wellhead Protection Area and Source Water**

##### **Not located in a Wellhead Protection Area or Source Water Area**

The Indiana Department of Environmental Management's Wellhead Proximity Determinator website (<http://www.in.gov/idem/cleanwater/pages/wellhead/>) was accessed on July 23, 2020 by Troyer Group. This project is not located within a Wellhead Protection Area or Source Water Area. No impacts are expected.

#### **Water Wells**

##### **No wells present, no impacts**

The Indiana Department of Natural Resources Water Well Record Database website (<https://www.in.gov/dnr/water/3595.htm>) was accessed on April 10, 2019 by Troyer Group. No wells are located near this project. Therefore, no impacts are expected.

#### **Urban Area Boundary**

##### **In an Urban Area Boundary Location**

Based on a desktop review of the INDOT MS4 website (<https://entapps.indot.in.gov/MS4/>) by Troyer Group on July 23, 2020, and the RFI report; this project is located in an Urban Area Boundary (UAB) location. An early coordination letter was sent on July 10, 2020, to the Town of St. John MS4 Coordinator (Appendix C-3). No response was received within the 30-day time frame. No impacts are expected.

#### **Public Water System**

##### **Not in a Public Water System Location**

Based on a desktop review and the aerial map of the project area (Appendix B-3) no public water systems were identified. Therefore, no impacts are expected.

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<b>Floodplains</b>	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Project located within a regulated floodplain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Longitudinal encroachment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transverse encroachment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Homes located in floodplain within 1000' up/downstream from project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If applicable, indicate the Floodplain Level?

Level 1  Level 2  Level 3  Level 4  Level 5

Use the IDNR Floodway Information Portal to help determine potential impacts. Include floodplain map in appendix. Discuss impacts according to the classification system. If encroachment on a flood plain will occur, coordinate with the Local Flood Plain Administrator during design to insure consistency with the local flood plain planning.

**Not in floodplain**

The Indiana Department of Natural Resources Indiana Floodway Information Portal website (<http://dnrmmaps.dnr.in.gov/appsphp/fdms/>) was accessed on July 23, 2020 by Troyer Group. This project is not located in a regulatory floodplain as determined from approved Federal Emergency Management Agency (FEMA) floodplain maps (Appendix F-34). Therefore, it does not fall within the guidelines for the implementation of 23 CFR 650, 23 CFR 771, and 44 CFR. No impacts are expected.

<b>Farmland</b>	<u>Presence</u>	<u>Impacts</u>	
		<u>Yes</u>	<u>No</u>
Agricultural Lands	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Prime Farmland (per NRCS)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Total Points (from Section VII of CPA-106/AD-1006*)	<u>150</u>		

*\*If 160 or greater, see CE Manual for guidance.*

Discuss existing farmland resources in the project area, impacts that will occur to farmland, and mitigation and minimization measures considered.

**Presence, score under 160**

Based on a desktop review and the aerial map of the project area (Appendix B-3), the project will convert six acres of farmland as defined by the Farmland Protection Policy Act. An early coordination letter was sent on July 10, 2020, to Natural Resources Conservation Services (NRCS). Their response, dated July 27, 2020, stated that the project will cause a conversion of prime farmland (Appendix C-6). Coordination with NRCS resulted in a score of 150 on the AD 1006 Form (Appendix C-7). NRCS's threshold score for significant impacts to farmland that result in the consideration of alternatives is 160. Since this project score is less than the threshold, no significant loss of prime, unique, statewide, or local important farmland will result from this project. No alternatives other than those previously discussed in this document will be investigated without reevaluating impacts to prime farmland. The completed AD 1006 form was sent to NRCS on June 25, 2021. No response was received within 30 days.

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<b>SECTION D – CULTURAL RESOURCES</b>
---------------------------------------

<b>Minor Projects PA</b>	<b>Category(ies) and Type(s)</b>	<b>INDOT Approval Date(s)</b>	<b>N/A</b> <input checked="" type="checkbox"/>
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**Full 106 Effect Finding**

No Historic Properties Affected       No Adverse Effect       Adverse Effect

**Eligible and/or Listed Resources Present**

NRHP Building/Site/District(s)       Archaeology       NRHP Bridge(s)

**Documentation Prepared** (mark all that apply)

APE, Eligibility and Effect Determination   
 800.11 Documentation   
 Historic Properties Report or Short Report   
 Archaeological Records Check and Assessment   
 Archaeological Phase Ia Survey Report   
 Archaeological Phase Ic Survey Report   
 Other: Interim Effects Letter

**ESD Approval Date(s)**

**SHPO Approval Date(s)**

<input checked="" type="checkbox"/>	June 3, 2021	July 2, 2021
<input checked="" type="checkbox"/>	June 3, 2021	July 2, 2021
<input checked="" type="checkbox"/>	April 23, 2020	June 8, 2020
<input type="checkbox"/>		
<input checked="" type="checkbox"/>	February 17, 2020	June 8, 2020
<input type="checkbox"/>		
<input checked="" type="checkbox"/>	February 19, 2021	March 15, 2021

Memorandum of Agreement (MOA)

**MOA Signature Dates** (List all signatories)

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If the project falls under the MPPA, describe the category(ies) that the project falls under and any approval dates. If the project requires full Section 106, use the headings provided. The completion of the Section 106 process requires that a Legal Notice be published in local newspapers. Please indicate the publication date, name of the paper(s) and the comment period deadline. Include any further Section 106 work which must be completed at a later date, such as mitigation from a MOA or avoidance commitments.

### **Full Section 106:**

#### **Area of Potential Effect (APE):**

An Area of Potential Effects (APE) was identified, inside of which all above ground resources were identified and evaluated. The APE is the “geographic area or areas within which an undertaking may directly or indirectly cause alteration in the character or use of historic properties. The area of potential effects is influenced by the scale and nature of an undertaking....” (36 CFR 800.9 a). The aboveground APE for this project encompasses all areas from which the proposed roundabout, and realigned roadways are readily visible, including all properties adjacent to the intersection. The APE for archaeological resources is defined as the project footprint. The APE for this project consists of a 181.5 acre area, including the 15.3 acre area where construction activities will occur and other areas surrounding the intersection where other effects caused by the project will occur. (Appendix D-1). The APE’s boundaries follow the project’s lines of sight along US 231 and Cline Ave.

#### **Coordination with Consulting Parties:**

INDOT and The Troyer Group invited 16 consulting parties, listed below, (Appendix D-62) as part of the Section 106 early coordination issued on July 19, 2019. Responses were received from the Pokagon Band of Potawatomi Indians, the Indiana Landmarks Northwest Field Office, and the Indiana State Historic Preservation Officer (SHPO).

List of Consulting Invited Parties at the time of Initial Coordination

- Indiana Landmarks, Northwest Field Office
- IN SHPO
- Lake County, Indiana Surveyor
- Lake County, Indiana Commissioners
- Lake County, Indiana Highway Superintendent
- Lake County, Indiana Engineer
- Lake County, Indiana Historian
- Lake County, Indiana Genealogical Society
- South Lake County Agricultural Historical Society
- Eastern Shawnee Tribe of Oklahoma
- Forest County Potawatomi Community
- Miami Tribe of Oklahoma
- Peoria Tribe of Indians of Oklahoma
- Pokagon Band of Potawatomi Indians
- Northwest Indiana Genealogical Society
- Northwestern Indiana Regional Planning Commission

On July 26, 2019, the Pokagon Band of Potawatomi Community responded to the early coordination letter (ECL), accepting the invitation to consult on the project. They indicated that there are no historic properties significant to the Pokagon Band of Potawatomi Indians within the project APE, and requested to be contacted if any archaeological resources are uncovered as a result of the undertaking. (Appendix D-71).

Indiana Landmarks responded to the ECL by letter on July 19, 2019 (Appendix D-70). They requested a closer evaluation of the John Barman farm - located to the northeast of the US 231 at Cline Ave. intersection - due to its status as a Hoosier Homestead and a “Contributing” resource in the Indiana Historic Sites and Structures Inventory (IHSSI). As a response to these concerns, a full evaluation of the John Barman farm was included within the text of the Historic Properties Report (HPR) for this project.

The SHPO responded to the ECL on August 16, 2019, concurring with the list of invited Consulting Parties (Appendix D-72). They also stated that they were not aware of any other parties to be invited to participate in the Section 106 process for this project.

#### **Archaeology:**

A Phase Ia Archaeological Reconnaissance was conducted in June 2019 to identify existing and unknown cultural resources within the construction footprint (Grob and Settle 2020). Two archaeological sites were identified within the project area. Both consist of historic scatters, which were not recommended eligible for the NRHP. A Phase Ia Report was generated and submitted to INDOT CRO. INDOT CRO approved the report on February 17, 2020. Excerpts from the report can be found in Appendix D-58. Consulting Parties were given the opportunity to review the Phase Ia Report on May 1, 2020. The SHPO concurred with the results on of the phase Ia investigation in a response dated June 8, 2020 (Appendix D-79), and again in a response to the Interim Effects letter for Historic Properties, dated March 15, 2021 (Appendix D-102). They also stated that portions of the archaeological sites outside of the

## Indiana Department of Transportation

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project area should be marked and avoided by all project activities. This is included as a firm project commitment.

### Historic Properties:

A Historic Property Report (HPR) was prepared by Cardno in January 2020. An excerpt of the HPR is included in Appendix D-54. The HPR included a review of the IHSSI via the Lake County Interim Report and the Indiana Buildings, Bridges, and Cemeteries Map (IBBCM) for aboveground resources within the APE, as well as a reconnaissance level survey to document buildings within the APE constructed through 1970. Five above-ground resources were documented within the APE, including the John Barman farm. None of these resources or properties were listed or recommended for listing in the National Register of Historic Places (NRHP). The HPR was submitted to INDOT CRO and approved on April 23, 2020. Consulting Parties were given the opportunity to review the HPR on April 30, 2020.

In a letter dated June 8, 2020, the IN SHPO responded to the HPR, stating "Given the integrity issues raised in the HPR about the John Barman Farmstead, we are inclined to agree with the evaluation of the John Barman Farmstead as not being eligible for the NRHP. However, given how close the proposed right-of-way would come to the front of the house, if another consulting party were to question the HPR's conclusion that the farmstead is not NRHP-eligible, we think that further consideration on the farmstead's potential eligibility would be warranted" (Appendix D-79). Indiana Landmarks commented on the HPR in a letter dated June 10, 2020, stating that "...the individual eligibility of the farmhouse should not prohibit consideration of the eligibility of the farmstead as a collective resource" (Appendix D-81). They listed a number of buildings within the Barman property that contribute to the farmstead as a whole, and recommended further examination of the property's NRHP eligibility. As a result, additional analysis of the John Barman Farm was completed by Cardno and documented in an Interim Effects Letter.

As a result of the additional investigation, the John Barman farm was found to retain its integrity of location and setting due to its status as an active farm that has remained in its original location. The major outbuildings feature designs and materials typical of a historic time-period. Therefore, the John Barman farm was determined to be NRHP-eligible under criteria A and C for agriculture and architecture for local significance. After determining that the property would be NRHP-eligible, portions of the project scope were redesigned to avoid adversely affecting the property. The NRHP eligibility determination and the determination that the property would not be adversely affected were documented in the Interim Effects Letter and distributed to consulting parties on February 19, 2021 (Appendix D-82). The owner of the John Barman farm property, Mr. Donald Barman, was invited to be a consulting party at this time. He had not been included on earlier distributions to consulting parties.

Mr. Barman accepted the invitation to be a consulting party on March 8, 2021 through a phone call to Cardno (Appendix D-100). In this phone call, Mr. Barman gave further details on the background and current status of the farm property, and stated concern regarding any potential drainage plans. Indiana Landmarks responded to the Interim Effects Letter on March 8, 2021, concurring with the "No Adverse Effect" finding (Appendix D-99). The IN SHPO also concurred with this effects finding, in a later dated March 15, 2021 (Appendix D-102). Finally, the Pokagon Band of Potawatomi Indians responded by letter on March 19, 2021, but did not revise their previous statement stating that there are no properties significant to the Pokagon Band in the project area (Appendix D-104).

### Documentation, Findings:

One NRHP-eligible historic property, the John Barman farm, was found within the project area. The John Barman farm embodies the broad pattern of agricultural development of the area, and is recommended NRHP-eligible under criteria A and C for agriculture and architecture for local significance. After determining that the John Barman farm's NRHP eligibility, the project was redesigned to avoid any ROW acquisition or construction activity within the boundaries of the farm property. No new signage will be placed within 50 ft. of the farm property boundaries. The nearest lighting fixture will be approximately 125 ft. west of the property boundary, and will not change the visual effects on the property from current conditions. Existing utilities are present along the road frontage of the Barman property, but no relocation within the NRHP boundaries is expected. Any utility relocation near or adjacent to the property will only result in a temporary inconvenience and visual disturbance. The existing utilities and signage located in and around the Barman Farm have already created an intrusion to the setting, feeling, and association of the property such that the proposed lighting and signage, along with any necessary utility relocation within the project area will not result in additional, negative visual impacts. As a result, no negative impacts to the John Barman farm property are expected. Therefore, an effect finding of "No Adverse Effect" was recommended, and was approved by INDOT CRO on June 3, 2021 (Appendix D-1).

The consulting parties, including the IN SHPO, were informed of the potential finding. The IN SHPO concurred with the finding of "No Adverse Effect", in a letter dated July 2, 2021 (Appendix D-108). No other consulting parties provided comments regarding the finding.

### Public Involvement:

To meet the public involvement requirements of Section 106, a legal notice of FHWA's finding of "No Adverse Effect" was published in the *Northwest Indiana Times* newspaper on June 15, 2021 offering the public an opportunity to submit comment pursuant to 36 CFR 800.2(d), 800.3(e), and 800.6(a)(4). The public comment period closed after 30 days, no later than July 15, 2021. The text of

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the public notice and the affidavit of publication appear in Appendix D-105. No comments were received from the public.

This completes the Section 106 process and the responsibilities of the FHWA under Section 106 have been fulfilled.

### SECTION E – SECTION 4(f) RESOURCES/ SECTION 6(f) RESOURCES

	<u>Presence</u>	<u>Use</u>	
		<u>Yes</u>	<u>No</u>
<b>Parks and Other Recreational Land</b>			
Publicly owned park	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Publicly owned recreation area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (school, state/national forest, bikeway, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Wildlife and Waterfowl Refuges</b>			
National Wildlife Refuge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
National Natural Landmark	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Wildlife Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State Nature Preserve	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Historic Properties</b>			
Site eligible and/or listed on the NRHP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Evaluations Prepared**

Programmatic Section 4(f)	<input type="checkbox"/>
"De minimis" Impact	<input type="checkbox"/>
Individual Section 4(f)	<input type="checkbox"/>
Any exception included in 23 CFR 774.13	<input type="checkbox"/>

*Discuss Programmatic Section 4(f) and "de minimis" Section 4(f) impacts in the discussion below. Individual Section 4(f) documentation must be included in the appendix and summarized below. Discuss proposed alternatives that satisfy the requirements of Section 4(f). FHWA has identified various exceptions to the requirement for Section 4(f) approval. Refer to 23 CFR § 774.13 - Exceptions.*

**Presence, no impact, no use**

Section 4(f) of the U.S. Department of Transportation Act of 1966 prohibits the use of certain public and historic lands for federally funded transportation facilities unless there is no feasible and prudent alternative. The law applies to significant publicly owned parks, recreation areas, wildlife / waterfowl refuges, and NRHP eligible or listed historic properties regardless of ownership. Lands subject to this law are considered Section 4(f) resources.

Based on a desktop review, the aerial map of the project area (Appendix B-3) and the RFI report (Appendix E) there is one potential 4(f) resources located within the 0.5 mile search radius. According to additional research there is one 4(f) resources located within or adjacent to the project area. One NRHP eligible site, the Barman Farm, is located adjacent to the northeast portion of the project area. The project scope was modified to eliminate the need for any ROW acquisition from or construction within the historic limits of the Barman Farm property. No new signage will be placed within 50 ft. of the farm property boundaries, and no lighting will be placed within 100 ft. The nearest lighting fixture will be approximately 125 ft. west of the property boundary, and will not change the visual effects on the property from current conditions. Utility relocation will not result in any negative construction or visual impact. As a result, no negative impacts to the John Barman farm property are expected. Additionally, INDOT has determined that the appropriate Section 106 finding is "No Adverse Effect." Therefore, no Section 4(f) use is expected.

**Section 6(f) Involvement**

**Presence**

**Use**

**Section 6(f) Property**

**Yes**

**No**

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*Discuss Section 6(f) resources present or not present. Discuss if any conversion would occur as a result of this project. If conversion will occur, discuss the conversion approval.*

**No presence, no impact**

The U.S. Land and Water Conservation Fund Act of 1965 established the Land and Water Conservation Fund (LWCF), which was created to preserve, develop, and assure accessibility to outdoor recreation resources. Section 6(f) of this Act prohibits conversion of lands purchased with LWCF monies to a non-recreation use.

A review of 6(f) properties on the Land and Water Conservation Fund (LWCF) website at <https://www.lwcfcoalition.com/tools> revealed a total of 57 properties in Lake County (Appendix I-1). None of these properties are located within or adjacent to the project area. Therefore, there will be no impacts to 6(f) resources as a result of this project.

**SECTION F – Air Quality**

**STIP/TIP and Conformity Status of the Project**

	Yes	No
Is the project in the most current STIP/TIP?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the project located in an MPO Area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the project in an air quality non-attainment or maintenance area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If Yes, then:		
Is the project in the most current MPO TIP?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the project exempt from conformity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If No, then:		
Is the project in the Transportation Plan (TP)?	<input type="checkbox"/>	<input type="checkbox"/>
Is a hot spot analysis required (CO/PM)?	<input type="checkbox"/>	<input type="checkbox"/>

Location in STIP: 2022-2026 STIP Appendix C – NIRPC, Page 69  
 Name of MPO (if applicable): NIRPC  
 Location in TIP (if applicable): 2022-2026 NIRPC TIP, Amendment 22-58

Level of MSAT Analysis required?

Level 1a  Level 1b  Level 2  Level 3  Level 4  Level 5

*Describe if the project is listed in the STIP and if it is in a TIP. Describe the attainment status of the county(ies) where the project is located. Indicate whether the project is exempt from a conformity determination. If the project is not exempt, include information about the TP and TIP. Describe if a hot spot analysis is required and the MSAT Level.*

**STIP/TIP**

This project is included in the NIRPC FY 2022-2026 TIP, which has been directly incorporated into the FY 2022-2026 STIP (Appendix H-1). Changes to the project funding have been included in NIRPC TIP Amendment 22-58, which will be incorporated into the FY 2022-2026 STIP at a later date (Appendix H-2).

**Nonattainment area/maintenance area**

- Ozone:** This project is located in Lake County, which is currently a nonattainment area for Ozone, under the 2015, 2008, and 1997 Ozone 8-hour standard, which was revoked in 2015 but is being evaluated for conformity due to the February 16, 2018, South Coast Air Quality Management District V. Environmental Protection Agency, Et. Al. Decision. The project's design concept and scope are accurately reflected in both the NIRPC Transportation Plan (TP) and the Transportation Improvement Program (TIP) and both conform to the State Implementation Plan (SIP). Therefore, the conformity requirements of 40 CFR 93 have been met.

**MSAT Level 1a Analysis**

This project is of a type qualifying as a categorical exclusion (Group 1) under 23 CFR 771.117(c), or exempt under the Clean Air Act conformity rule under 40 CFR 93.126, and as such, a Mobile Source Air Toxics analysis is not required.

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### SECTION G - NOISE

**Noise**

**Yes      No**

Is a noise analysis required in accordance with FHWA regulations and INDOT's traffic noise policy?

Date Noise Analysis was approved/technically sufficient by INDOT ESD: \_\_\_\_\_

*Describe if the project is a Type I or Type III project. If it is a Type I project, describe the studies completed to date and if noise impacts were identified. If noise impacts were identified, describe if abatement is feasible and reasonable and include a statement of likelihood.*

**Type III Project**

This project is a Type III project. In accordance with 23 CFR 772 and the current *Indiana Department of Transportation Traffic Noise Analysis Procedure*, this action does not require a formal noise analysis.

### SECTION H – COMMUNITY IMPACTS

**Regional, Community & Neighborhood Factors**

**Yes      No**

Will the proposed action comply with the local/regional development patterns for the area?

x	
---	--

Will the proposed action result in substantial impacts to community cohesion?

	x
--	---

Will the proposed action result in substantial impacts to local tax base or property values?

	x
--	---

Will construction activities impact community events (festivals, fairs, etc.)?

	x
--	---

Does the community have an approved transition plan?

x	
---	--

If No, are steps being made to advance the community's transition plan?

--	--

Does the project comply with the transition plan? (explain in the discussion below)

x	
---	--

*Discuss how the project complies with the area's local/regional development patterns; whether the project will impact community cohesion; and impact community events. Discuss how the project conforms with the ADA Transition Plan.*

The proposed intersection improvement will not impact development patterns in the area. There will be no negative impacts to community cohesion, the local tax base, or property values. Construction is not expected to affect planned community events.

The Town of St. John has an approved ADA transition plan, which is viewable online at [https://www.stjohnin.com/Residents/PublicDocuments/ADA\\_Transition\\_Plan\\_2012.pdf](https://www.stjohnin.com/Residents/PublicDocuments/ADA_Transition_Plan_2012.pdf). No pedestrian facilities are planned as part of this project, and the project will not impact any facilities listed in the transition plan. Therefore, the project is considered in compliance with St. John's ADA transition plan.

The construction of the roundabout is not anticipated to impact any community events such as festivals or fairs. The website <https://www.lakecountyin.org/portal/user/anon/page/events-center> was consulted and none of the events listed occur near the proposed project. Access to these events will not be directly affected by the MOT, and the detour routes for the project, to be used during certain construction phases, will ensure alternate routes will be provided.

Once constructed, the project will have a positive impact on the community as it will improve safety for the motoring public.

**Public Facilities and Services**

*Discuss what public facilities and services are present in the project area and impacts (such as MOT) that will occur to them. Include how the impacts have been minimized and what coordination has occurred. Some examples of public facilities and services include health facilities, educational facilities, public and private utilities, emergency services, religious institutions, airports, transportation or public pedestrian and bicycle facilities.*

**No presence, no impact**

Based on a desktop review, aerial map of the project area (Appendix B-3) and the RFI report (Appendix E) there are no public facilities within the 0.5 mile search radius. There are no non-utility public facilities within or adjacent to the project area. Access to all properties will be maintained during construction. Therefore, no impacts are expected. It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction that would block or limit access.

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There are public and private utilities located within the project area. Utility coordination was initiated with AT&T, Comcast, Frontier, Intelligent Fiber Network (IFN), CenturyLink, and Northern Indiana Public Service Company (NIPSCO) on January 9, 2020.

AT&T responded on January 10, 2020, confirming that they have buried cables within the project area that will be affected by the project (Appendix I-18). They were sent plan sheets for the project on March 3, 2021, and marked the locations of their facilities on these plans (Appendix B-16). Further coordination regarding utility impacts and relocation is ongoing.

Comcast responded on January 9, 2020, confirming that they have both aerial and underground cables within the project area, and that they will likely be in conflict with the project plans (Appendix I-19). They requested NIPSCO relocation drawings for their work plan. Further coordination regarding utility impacts and relocation is ongoing.

IFN responded on January 13, 2020, confirming that they have buried fiber lines along the south side of US 231 in the project area and requesting plans for review, when available (Appendix I-20). Plan sheets were sent to IFN on April 13, 2021. Further coordination regarding utility impacts and relocation is ongoing.

CenturyLink responded on January 13, 2020, providing drawings with the approximate locations of their buried fiber facilities within the project area (Appendix I-21). These locations are marked on the project plans (Appendix B-16). The Facilities have been constructed on private property and/or public right of way with the authorization of the applicable property owner. Prior to any work being performed by or on behalf of CenturyLink all costs associated with the adjustment and/or relocation of the Facilities are required to be paid in full to CenturyLink. This will be the responsibility of the project sponsor. Any contractor working in these areas will be required to contact the Indiana Underground Plant Protection Service (IUPPS) by submitting a ticket through [www.indiana811.org](http://www.indiana811.org) prior to any excavation. This is a firm project commitment. If it is determined that an adjustment and/or relocation of the Facilities is necessary to accommodate the Project, please contact the undersigned to discuss and reference the file number 166398 IN with any future communications. This coordination regarding potential relocation is ongoing as part of the overall utility coordination process.

NIPSCO responded on January 16, 2020, stating that they have both electric and gas facilities present within the project area (Appendix I-22). The NIPSCO Gas engineer requested work plans for the project on January 20, 2020 (Appendix I-25). The NIPSCO Electric engineer provided a follow-up response on January 22, 2020 with the types of facilities present, requirements to relocate them, and an estimate for the relocation process timeframe (Appendix I-26). Currently, it is expected that relocation of NIPSCO Electric utility poles will be required. NIPSCO has provided phase one of their relocation plans for Cline Ave. Further coordination regarding relocation will continue upon receipt of their phase two plans for US 231 and Cline Ave. Coordination with NIPSCO Gas has been ongoing in conjunction with NIPSCO electric, and will continue as such.

**Environmental Justice (EJ)** (Presidential EO 12898)

During the development of the project were EJ issues identified?

Yes	No
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Does the project require an EJ analysis?

<input checked="" type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------

If YES, then:

Are any EJ populations located within the project area?

<input checked="" type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	--------------------------

Will the project result in adversely high and disproportionate impacts to EJ populations?

<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	-------------------------------------

*Indicate if EJ issues were identified during project development. If an EJ analysis was not required, discuss why. If an EJ analysis was required, describe how the EJ population was identified. Include if the project has a disproportionately high and adverse effect on EJ populations and explain your reasoning. If yes, describe actions to avoid, minimize and mitigate these effects.*

**EJ Analysis, EJ Populations**

Under FHWA Order 6640.23A, FHWA and the project sponsor, as a recipient of funding from FHWA, are responsible to ensure that their programs, policies, and activities do not have a disproportionately high and adverse effect on minority or low-income populations. Per the current INDOT Categorical Exclusion Manual, an Environmental Justice (EJ) Analysis is required for any project that has two or more relocations or 0.5 acre of additional permanent right-of-way. The project will require approximately 8.367 acres of additional permanent ROW. No relocations will be required. Therefore, an EJ Analysis is required.

Potential EJ impacts are detected by locating minority and low-income populations relative to a reference population to determine if populations of EJ concern exists and whether there could be disproportionately high and adverse impacts to them. The reference population may be a county, city or town and is called the community of comparison (COC). In this project, the COC is comprised of both Hanover and Center Townships, in Lake County, IN. The community that overlaps the project area is called the affected community (AC). In this project, the ACs are Census Tracts 429.02, 430.01, and 431.01, in Lake County, Indiana. An AC has a population of concern for EJ if the population is more than 50% minority or low-income or if the low-income or minority population is 125% of the COC. Data from the 2019 American Community Survey (ACS) 5-year Estimates was obtained from the US Census Bureau Website <https://data.census.gov/> on May 17, 2021, by Troyer Group, and can be found in Appendix I-13 through I-16. The

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data collected for minority and low-income populations within the ACs are summarized in the below table.

Table: Minority and Low-Income Data (2019 ACS 5-year Estimates Detailed Tables)				
	COC - Hanover and Center Townships, Lake County, Indiana	AC-1 – Census Tract 429.02 Lake County, Indiana	AC-2 – Census Tract 430.01 Lake County, Indiana	AC-3 – Census Tract 431.01 Lake County, Indiana
Percent Minority	10.92%	14.67%	10.34%	4.97%
125% of COC	13.65%	AC > 125% COC	AC < 125% COC	AC < 125% COC
EJ Population of Concern		Yes	No	No
Percent Low-Income	6.40%	4.46%	6.90%	16.06%
125% of COC	8.00%	AC < 125% COC	AC < 125% COC	AC > 125% COC
EJ Population of Concern		No	No	Yes

AC-1, Census Tract 429.02 has a percent minority of 14.67% which is below 50% but is above the 125% COC threshold. AC-2, Census Tract 430.01 has a percent minority of 10.34% which is below 50% and is below the 125% COC. AC-3, Census Tract 431.01 has a percent minority of 4.97% which is below 50% and is below the 125% COC threshold. Therefore, one AC contains a minority population of EJ concern.

AC-1, Census Tract 429.02 has a percent low-income of 4.46% which is below 50% and is below the 125% COC threshold. AC-2, Census Tract 430.01 has a percent low-income of 6.90% which is below 50% and is below the 125% COC threshold. AC-3, Census Tract 431.01 has a percent low-income of 16.06%, which is below 50% but is above the 125% COC threshold. Therefore, one AC contains a low-income population of EJ concern.

### **Conclusion**

As per FHWA Order 6640.23A, a disproportionately high and adverse effect on a minority or low-income population means the adverse effect is predominantly borne by such population or is appreciably more severe or greater in magnitude on the minority or low-income population than the adverse effect suffered by the non-minority or non-low-income population. Potential impacts to EJ populations of concern are most likely to be the result of ROW acquisition and maintenance of traffic. 8.367 acres of permanent ROW acquisition will be required for this project. This acquisition was determined by the proposed intersection geometry. This is the minimum amount necessary to construct the project, and no further mitigation of this impact is possible at this time. This ROW will come from parcels spread across the project area. Every AC will be impacted to an approximately equal degree by the ROW acquisition. Therefore, this is not considered a disproportionately high and adverse impact on an EJ population of concern.

Cline Ave. will be closed for the first phase of construction, and the entire intersection will close for the second phase. Detours will be implemented for each phase. The first phase will utilize a detour using local routes following 101st Ave., Parrish St., and 117th Ave. This detour is approximately 4.6 miles long and will add roughly five minutes to the average commute. Phase two involves full closure of the intersection and utilization of a detour. The detour will use US 231, US 41, US 30, and SR 55. It will be approximately 16 miles long, and will add 10.5 miles to the average daily commute. Other unsigned local detours not involving state routes will be available to nearby residents, thereby reducing the added travel distance for local trips. The overall MOT plan will be in place for one construction season, or 8-10 months, with a roughly even breakdown between each phase. Since impacts from MOT are spread evenly across each AC and have been minimized to the shortest closure period necessary to construct the project, they are not considered disproportionately high and adverse impacts on an EJ population of concern.

No impacts to public facilities or community cohesion are expected, and there will be no relocations for the project. An email was sent to INDOT ESD on May 17, 2021, requesting their comments on these conclusions. Their response, dated May 18, 2021, stated that “with the information provided, INDOT-ESD would not consider the impacts associated with this project as causing a disproportionately high and adverse effect on minority and/or low income populations of EJ concern relative to non EJ populations in accordance with the provisions of Executive Order 12898 and FHWA Order 6640.23a. No further EJ Analysis is required.”

Since the project impacts are minimal and largely temporary in nature, the identified EJ populations of concern are not anticipated to experience disproportionately high and adverse impacts as a result of this project.

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**Relocation of People, Businesses or Farms**

Will the proposed action result in the relocation of people, businesses or farms?  
Is a BIS or CSRS required?

Yes	No
<input type="checkbox"/>	<b>x</b>
<input type="checkbox"/>	<b>x</b>

Number of relocations: Residences: 0 Businesses: 0 Farms: 0 Other: 0

*Discuss any relocations that will occur due to the project. If a BIS or CSRS is required, discuss the results in the discussion below.*

**No Relocations**

No relocations of people, businesses, or farms will take place as a result of this project.

**SECTION I – HAZARDOUS MATERIALS & REGULATED SUBSTANCES**

**Hazardous Materials & Regulated Substances** (Mark all that apply)

- Red Flag Investigation (RFI)
- Phase I Environmental Site Assessment (Phase I ESA)
- Phase II Environmental Site Assessment (Phase II ESA)
- Design/Specifications for Remediation required?

Documentation

<b>x</b>

Date RFI concurrence by INDOT SAM (if applicable): May 13, 2020

*Include a summary of the potential hazardous material concerns found during review. Discuss in depth sites found within, directly adjacent to, or ones that could impact the project area. Refer to current INDOT SAM guidance. If additional documentation (special provisions, pay quantities, etc.) will be needed, include in discussion. Include applicable commitments.*

**Presence, no impact**

Based on a review of GIS and available public records, a RFI was concurred by INDOT SAM on May 13, 2020 (Appendix E) One NPDES facility is located within 0.5 mile of the project area. The facility is located 0.39 mile west of the project area. None of the hazmat sites identified will impact the project. Further investigation for hazardous material concerns is not required at this time.

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**Part IV – Permits and Commitments**

**PERMITS CHECKLIST**

**Permits** (mark all that apply)

**Likely Required**

**Army Corps of Engineers (404/Section10 Permit)**

Nationwide Permit (NWP)	<input type="checkbox"/>
Regional General Permit (RGP)	<input checked="" type="checkbox"/>
Individual Permit (IP)	<input type="checkbox"/>
Other	<input type="checkbox"/>

**IN Department of Environmental Management (401/Rule 5)**

Nationwide Permit (NWP)	<input type="checkbox"/>
Regional General Permit (RGP)	<input type="checkbox"/>
Individual Permit (IP)	<input checked="" type="checkbox"/>
Isolated Wetlands	<input type="checkbox"/>
Rule 5	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>

**IN Department of Natural Resources**

Construction in a Floodway	<input type="checkbox"/>
Navigable Waterway Permit	<input type="checkbox"/>
Other	<input type="checkbox"/>

**Mitigation Required**

**US Coast Guard Section 9 Bridge Permit**

**Others (Please discuss in the discussion below)**

*List the permits likely required for the project and summarize why the permits are needed, including permits designated as "Other."*

**Permits Required**

This project will require the placement of clean fill material in approximately 0.97 acre of jurisdictional wetland for the construction of the southwestern portion of the roundabout and related amenities. These impacts are anticipated to be permitted by the USACE through the use of a 404 Regional General Permit (RGP) and by IDEM through the use of a 401 Individual Permit (IP). Mitigation is expected to be required for these impacts, and will likely be accomplished through the purchase of Mitigation Credits from the INSWMP. No Construction in Floodway (CIF) permit will be required from the DNR.

This project is located within the Lake Michigan Coastal Program's Boundary. The project will qualify for a USACE General Permit, which exempts it from a Federal Consistency review by the IDNR Coastal Program.

Greater than one acre of soil disturbance is expected for this project. Therefore, a Rule 5 permit from IDEM will be required.

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### ENVIRONMENTAL COMMITMENTS

List all commitments and include the name of agency/organization requesting/requiring the commitment(s). Listed commitments should be numbered.

**Firm:**

- 1) If the scope of work or permanent or temporary right-of-way amounts change, INDOT ESD and the INDOT District Environmental Section will be contacted immediately. (INDOT ESD and INDOT District)
- 2) It is the responsibility of the project sponsor to notify school corporations and emergency services at least two weeks prior to any construction activity that would block or limit access. (INDOT ESD)
- 3) Any work in a wetland area within right-of-way or in borrow/waste areas is prohibited unless specifically allowed in the U.S. Army Corps of Engineers permit. (INDOT ESD)
- 4) GENERAL AMM 1: Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs. (USFWS)
- 5) LIGHTING AMM 1: Direct temporary lighting away from suitable habitat during the active season. (USFWS)
- 6) LIGHTING AMM 2: When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable. (USFWS)
- 7) The CenturyLink utility locations will be marked on the project plans. Any employee working in the areas indicated by CenturyLink as approximate utility locations will be required to submit a ticket to IUPPS online at [www.indiana811.org](http://www.indiana811.org) prior to any excavation. If it is determined that an adjustment and/or relocation of the Facilities is necessary to accommodate the Project, the contractor will contact the CenturyLink project contact, Kendall Williams-Zetina ([Kendall.Zetina@centurylink.com](mailto:Kendall.Zetina@centurylink.com), 918-547-0547) to discuss and reference the file number 166398 IN with any future communications. (CenturyLink)
- 8) The portions of archaeological sites that lie outside of the project area will be clearly marked and avoided by all ground-disturbing project activities. (SHPO)
- 9) No new permanent signage will be placed within 50 ft. of the boundaries of the Barman Farm property. (SHPO)
- 10) No new permanent lighting fixtures will be placed within 100 ft. of the boundaries of the Barman Farm property. The nearest lighting fixture will not change the visual effects on the property from its current conditions. (SHPO)
- 11) Drainage design plans and any additional requested information will be submitted to the Lake County Surveyor and Lake County Drainage Board prior to RFC (INDOT).
- 12) Field tiles in adjacent farm fields will be avoided and will not be impacted during construction. If any are impacted, the contractor will notify the INDOT project manager, who will attempt to contact the owner of the associated farm field. (INDOT)
- 13) The Lake County Section Corner Designation Monument located within the project area and marked on the project plan sheets will be reset at the same coordinates after construction. (INDOT)

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## **APPENDIX A**

### CE Threshold Chart

## Categorical Exclusion Level Thresholds

	PCE	Level 1	Level 2	Level 3	Level 4 <sup>1</sup>
<b>Section 106</b>	Falls within guidelines of Minor Projects PA	"No Historic Properties Affected"	"No Adverse Effect"	-	"Adverse Effect" Or Historic Bridge involvement <sup>2</sup>
<b>Stream Impacts</b>	No construction in waterways or water bodies	< 300 linear feet of stream impacts	≥ 300 linear feet of stream impacts	-	Individual 404 Permit
<b>Wetland Impacts</b>	No adverse impacts to wetlands	< 0.1 acre	-	< 1 acre	≥ 1 acre
<b>Right-of-way<sup>3</sup></b>	Property acquisition for preservation only or none	< 0.5 acre	≥ 0.5 acre	-	-
<b>Relocations</b>	None	-	-	< 5	≥ 5
<b>Threatened/Endangered Species (Species Specific Programmatic for Indiana bat &amp; northern long eared bat)</b>	"No Effect", "Not likely to Adversely Affect" (Without AMMs <sup>4</sup> or with AMMs required for all projects <sup>5</sup> )	"Not likely to Adversely Affect" (With any other AMMs)	-	"Likely to Adversely Affect"	Project does not fall under Species Specific Programmatic
<b>Threatened/Endangered Species (Any other species)</b>	Falls within guidelines of USFWS 2013 Interim Policy	"No Effect", "Not likely to Adversely Affect"	-	-	"Likely to Adversely Affect"
<b>Environmental Justice</b>	No disproportionately high and adverse impacts	-	-	-	Potential <sup>6</sup>
<b>Sole Source Aquifer</b>	Detailed Assessment Not Required	-	-	-	Detailed Assessment
<b>Floodplain</b>	No Substantial Impacts	-	-	-	Substantial Impacts
<b>Coastal Zone Consistency</b>	Consistent	-	-	-	Not Consistent
<b>National Wild and Scenic River</b>	Not Present	-	-	-	Present
<b>New Alignment</b>	None	-	-	-	Any
<b>Section 4(f) Impacts</b>	None	-	-	-	Any
<b>Section 6(f) Impacts</b>	None	-	-	-	Any
<b>Added Through Lane</b>	None	-	-	-	Any
<b>Permanent Traffic Alteration</b>	None	-	-	-	Any
<b>Coast Guard Permit</b>	None	-	-	-	Any
<b>Noise Analysis Required</b>	No	-	-	-	Yes
<b>Air Quality Analysis Required</b>	No	-	-	-	Yes <sup>7</sup>
<b>Approval Level</b>	Concurrence by INDOT District Environmental or Environmental Services	Yes	Yes	Yes Yes	Yes Yes Yes

<sup>1</sup>Coordinate with INDOT Environmental Services. INDOT will then coordinate with the appropriate FHWA Environmental Specialist.

<sup>2</sup>Any involvement with a bridge processed under the Historic Bridge Programmatic Agreement.

<sup>3</sup>Permanent and/or temporary right-of-way.

<sup>4</sup>AMMs = Avoidance and Mitigation Measures.

<sup>5</sup>AMMs determined by the IPAC decision key to be needed that are listed in the USFWS *User's Guide for the Range-wide Programmatic Consultation for Indiana bat and Northern long-eared bat* as "required for all projects".

<sup>6</sup>Potential for causing a disproportionately high and adverse impact.

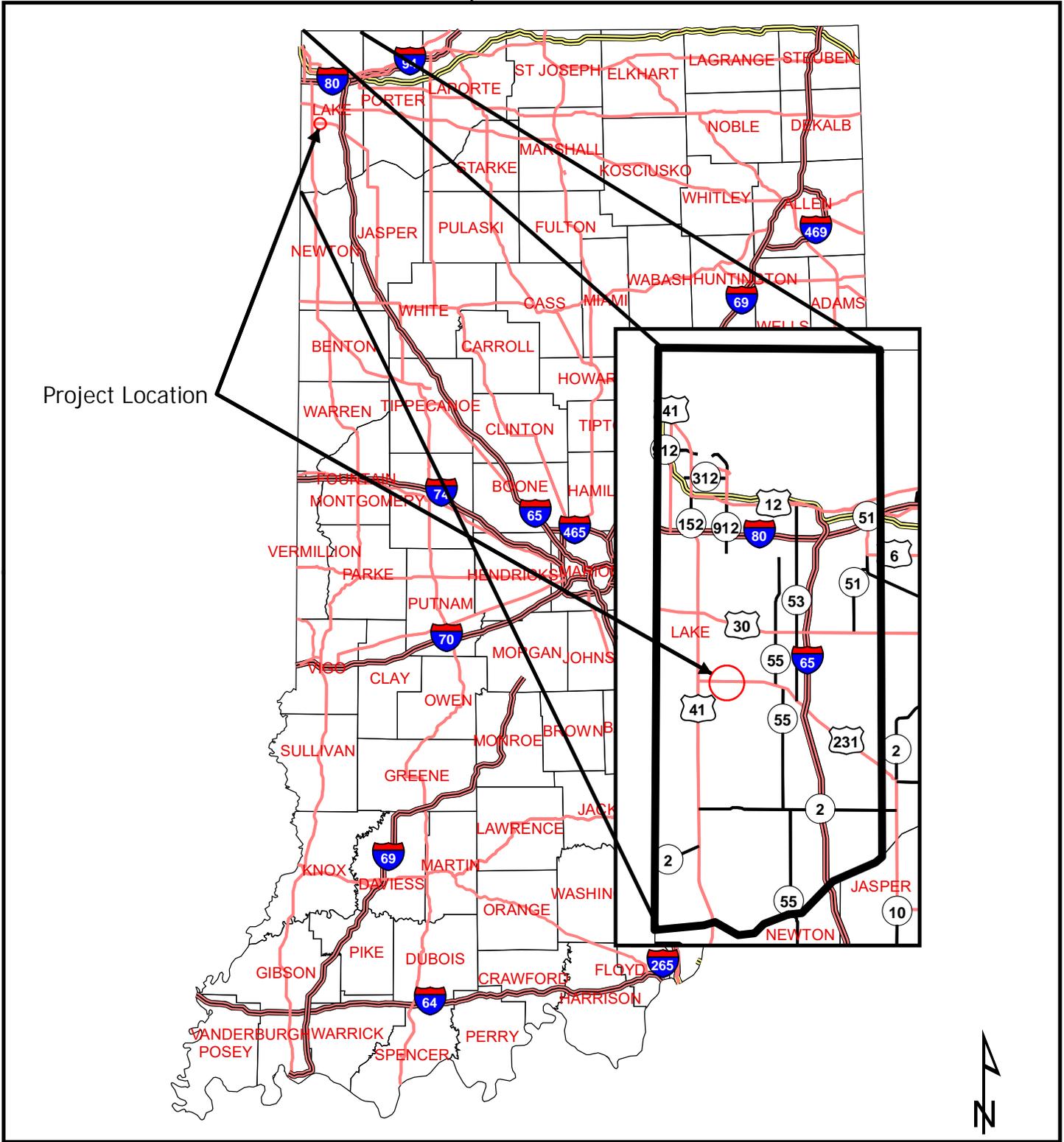
<sup>7</sup>Hot Spot Analysis and/or MSAT Quantitative Emission Analysis.

\*Substantial public or agency controversy may require a higher-level NEPA document.

## **APPENDIX B**

### Graphics

# Project Location

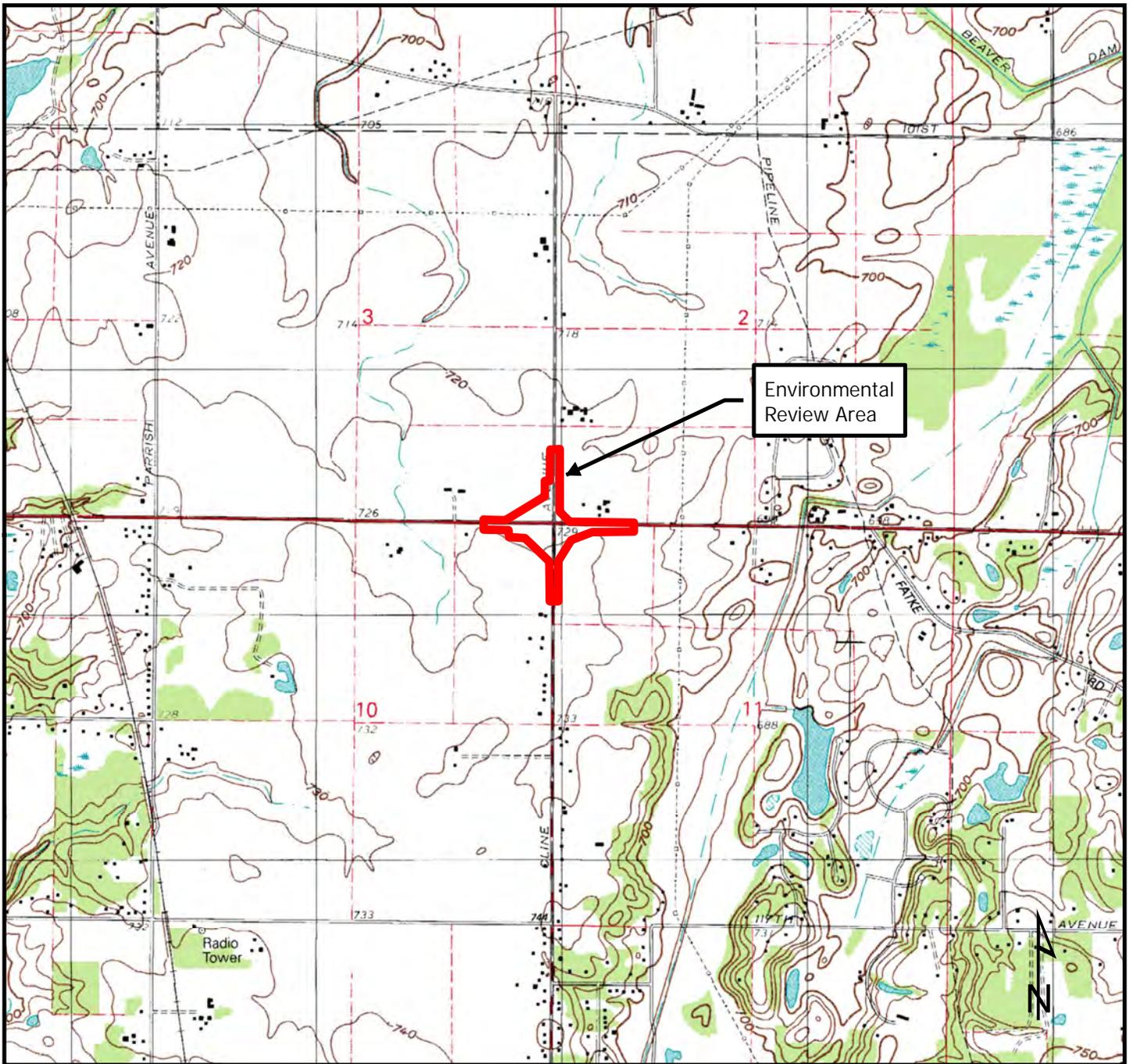


Project Location



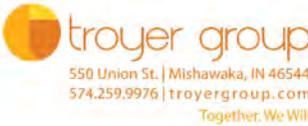
 <p>550 Union St.   Mishawaka, IN 46544 574.259.9976   troyergroup.com Together, We Will</p>	<p>PROJECT</p> <p>US 231 at Cline Ave. Intersection Roundabout (Des. No. 1700022)</p> <p>Lake County, Indiana</p>	<p>SCALE</p> <p>NTS</p>
		<p>SHEET</p> <p>Exhibit 1 Project Location Map</p>

# USGS Project Location Map

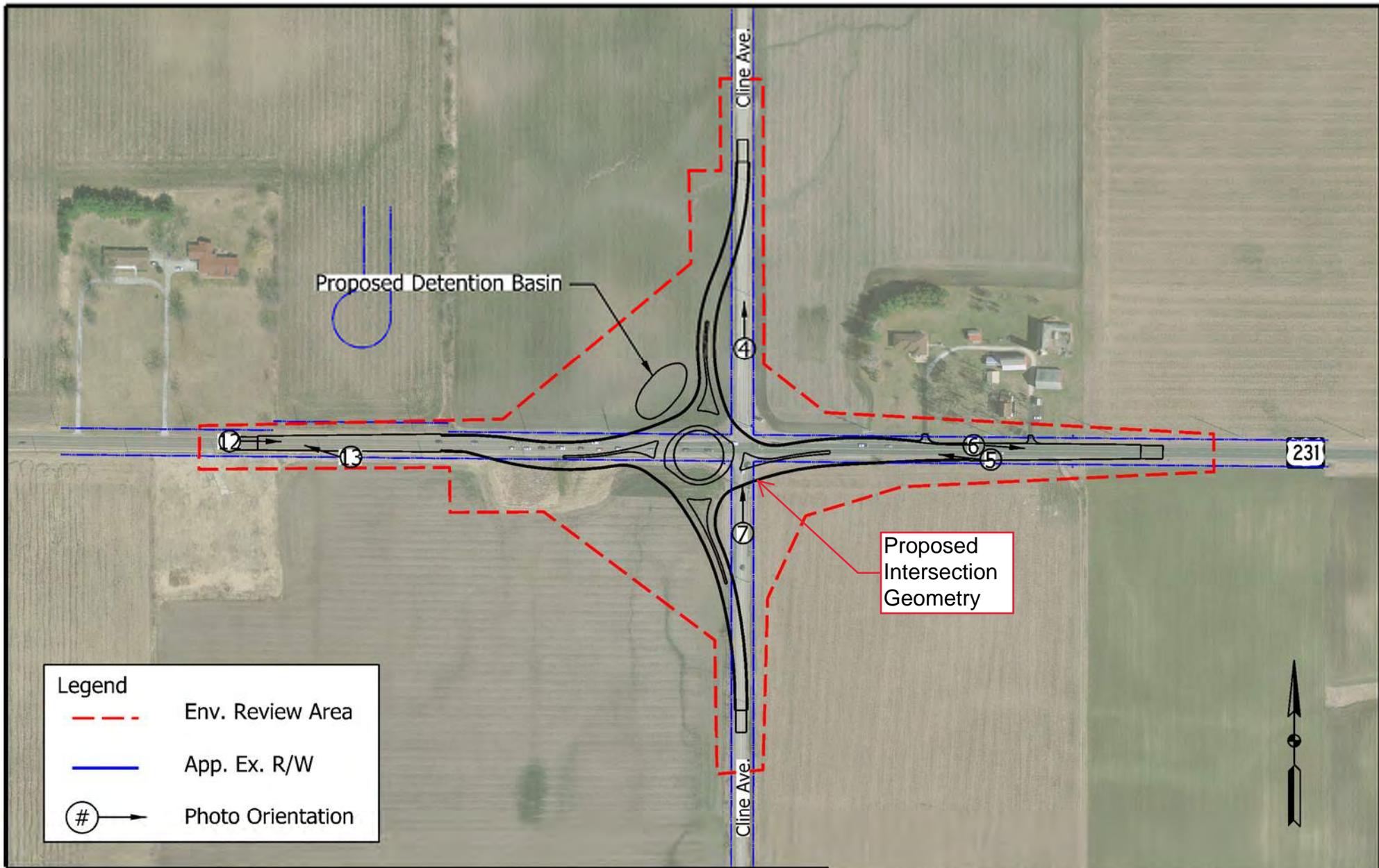


Portion of 7.5-Minute Series Map, Lake County, Saint John Quadrangle, Indiana  
 Source: USGS National Map

█ Project Area

 <p>550 Union St.   Mishawaka, IN 46544          574.259.9976   troyergroup.com          Together. We Will</p>	<p>PROJECT</p> <p>US 231 at Cline Ave. Intersection          Roundabout          (Des. No. 1700022)</p> <p>Lake County, Indiana</p>	<p>SCALE</p> <p>1:24,000</p>
	<p>SHEET</p> <p>Exhibit 2          USGS Map</p>	

# Photo Orientation Map



**Legend**

- - - Env. Review Area
- App. Ex. R/W
- Ⓢ → Photo Orientation

**troyer group**  
 330 Union St. Mishawaka, IN 46544  
 574.299.9976 | troyer@troyer.com  
 Together We Will

PROJECT  
*US 231 at Cline Ave.*  
 Roundabout  
 Lake County, IN

DES. NO. 1700022

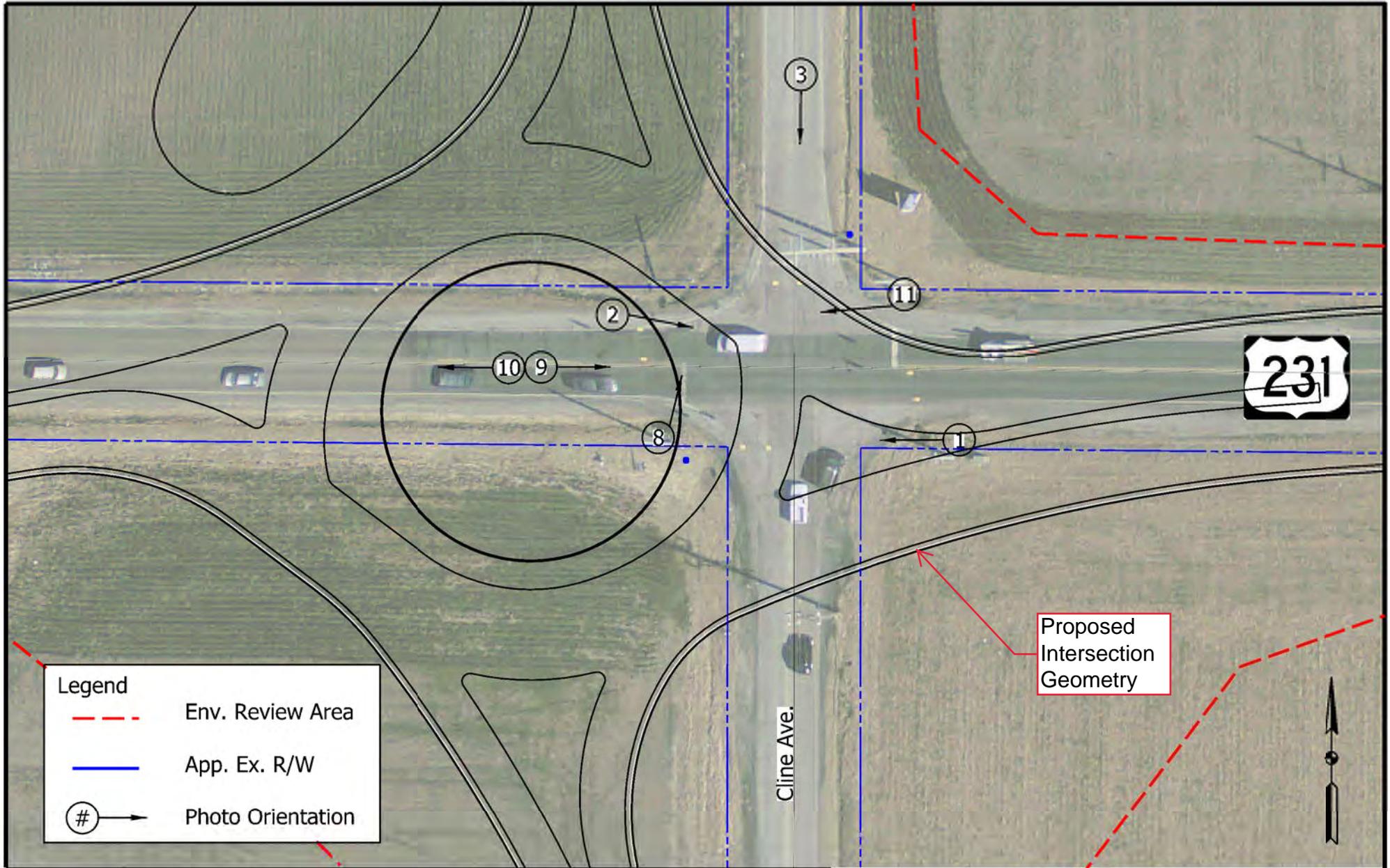
SHEET  
 Exhibit 3A  
 Project Area Aerial

**GRAPHIC SCALE**

0 150 300 (IN FEET) 600 900

SCALE: 1" = 300'

Photo Orientation Map



**Legend**

- - - Env. Review Area
- - - App. Ex. R/W
- # → Photo Orientation

Proposed Intersection Geometry

Cline Ave.



PROJECT  
**US 231 at Cline Ave.**  
 Roundabout  
 Lake County, IN

DES. NO. 1700022

SHEET  
**Exhibit 3B**  
 Project Area Aerial





Photo 1. Southeast corner of intersection- Looking West - along US 231.



Photo 2. Northwest corner of intersection- looking East- along US 231



Photo 3. North of intersection- Looking South- along Cline Ave.



Photo 4. North of intersection- Looking North- along Cline Ave.



Photo 5. East of the intersection- Looking West- along US 231



Photo 6. East of the intersection- Looking East- along US 231.



Photo 7. South of intersection-  
Looking North- along Cline Ave.  
toward US 231



Photo 8. Southwest corner of the  
intersection- looking North- along  
Cline Ave.



Photo 9. West of the intersection-  
Looking East- along US 231



Photo 10. West of the intersection-  
Looking West- along US 231



Photo 11. Northeast corner of  
intersection- Looking West-  
through intersection



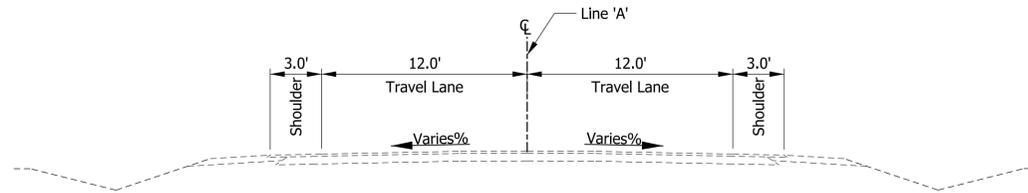
Photo 12. West of the intersection-  
Looking East- along US 231



Photo 13. West of the intersection-  
Looking West- along US 231



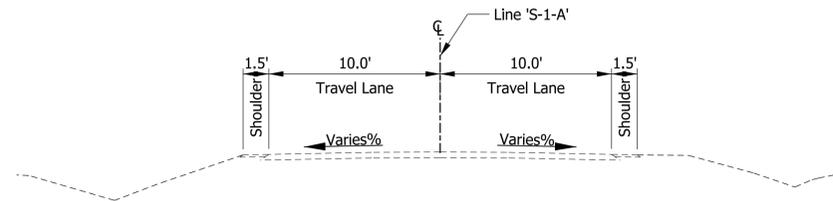




**US 231**  
 Scale: 3/16" = 1'-0"  
 Sta 255+91.61 to Sta 268+46.35 Line 'A'  
 Sta 272+37.45 to Sta 284+13.92 Line 'A'

**Note:**

- Per the Engineer's Report prepared by Lawson-Fisher Associates P.C dated January 30, 2018, the Roadway History indicated that US 231 had composite pavement, with a 20 ft wide concrete section below the asphalt.
- Per the Geotechnical Engineering Investigation performed by K&S Engineers, Inc. on September 8, 2020, the pavement cores taken along the travel lanes of US 231 both east and west of Cline contained an asphalt section ranging from 5.75 inches to 7.5 inches with no concrete present.



**Cline Ave.**  
 Scale: 3/16" = 1'-0"  
 Sta 44+19.66 to Sta 49+01.78 Line 'S-1-A'  
 Sta 50+77.96 to Sta 55+98.98 Line 'S-1-A'

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**PRELIMINARY**  
 NOT FOR CONSTRUCTION  
 DATE: 1/18/2021

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: PFR	DRAWN: PFR	
CHECKED: CLW	CHECKED: LRD	

**INDIANA**  
 DEPARTMENT OF TRANSPORTATION

US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
 EXISTING TYPICAL SECTIONS

HORIZONTAL SCALE	FILE
AS NOTED	
VERTICAL SCALE	DESIGNATION
N/A	1700022
SURVEY BOOK	SHEETS
	3 of 46
CONTRACT	PROJECT
R-42251	1700022

LEGEND

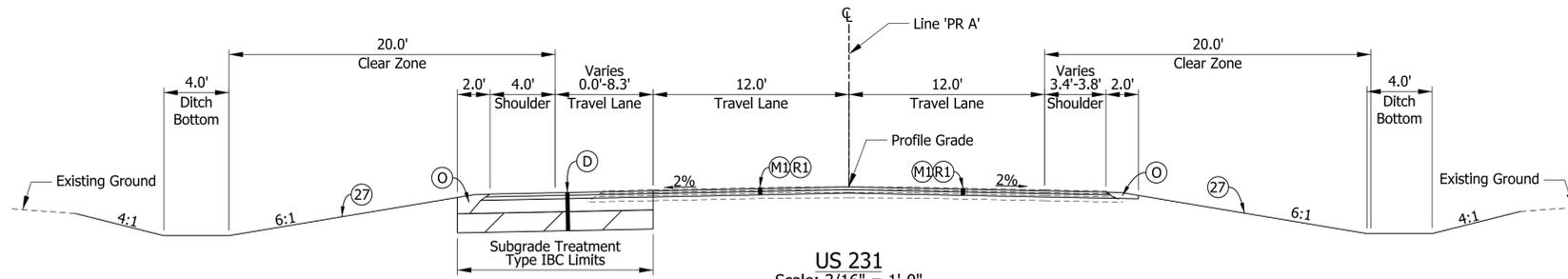
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- (O) Variable Depth Compacted Aggregate, No. 53
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- (11) Curb and Gutter, Concrete
- (12) Curb and Gutter, B, Concrete
- (13) Curb and Gutter, B, Concrete, Modified (Inverted) (3")
- (14) Curb, Integral, Concrete
- (15) Curb and Gutter, B, Concrete, Modified (Inverted)
- (26) Sodding on 4" of Topsoil
- (27) Mulched Seeding R

HMA ALTERNATE

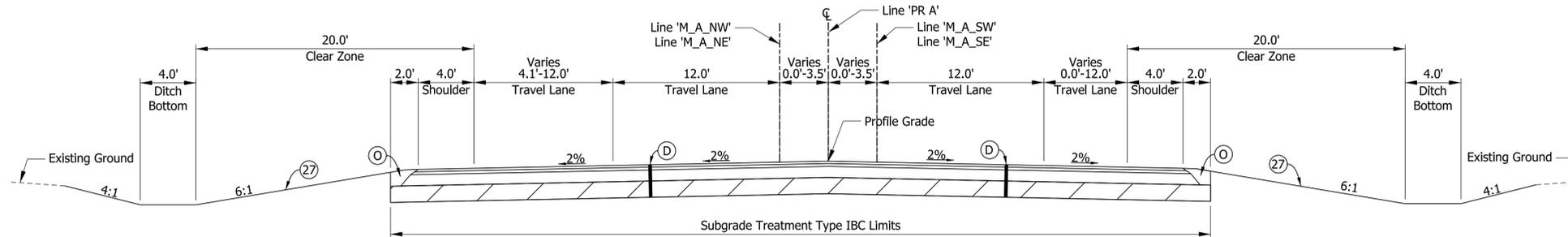
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(17 ft maximum joint spacing, 1 in. diameter dowel bars), on 10 in. Compacted Aggregate No. 53 Subgrade Treatment, Type IBC
- (A1) 6 in. PCCP (Colored), on 12 in. Dense Graded Subbase, on Subgrade Treatment Type IBC
- (D) 220 lb/syd QC/QA HMA, 3, 76, Surface, 9.5 mm, on 275 lb/syd QC/QA HMA, 3, 76, Intermediate, 19.0 mm, on 1045 lb/syd QC/QA HMA, 3, 64, Base, 19.0 mm (3 lifts), on Subgrade Treatment, Type IBC

PCCP ALTERNATE

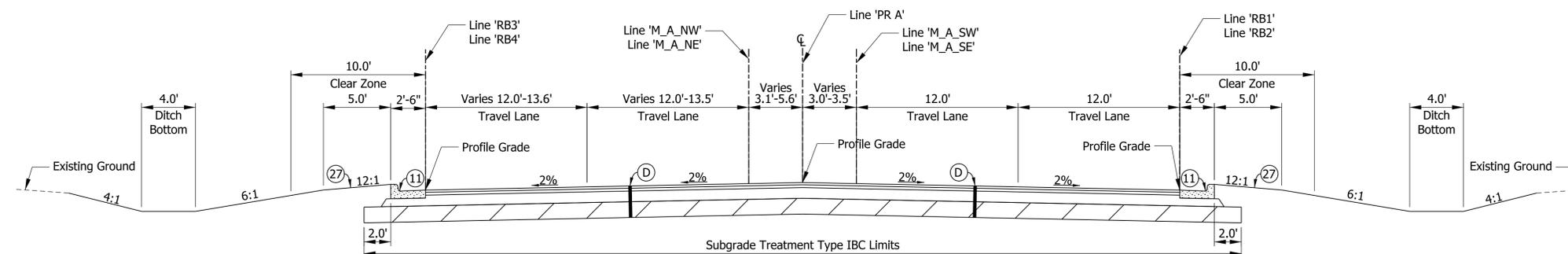
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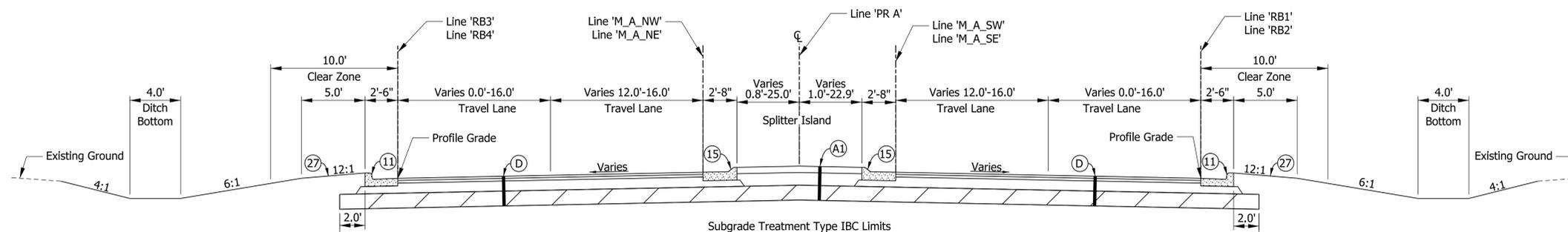
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US 231  
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US 231  
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US 231  
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CHECKED: CLW	CHECKED: LRD	

**INDIANA DEPARTMENT OF TRANSPORTATION**

US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
PROPOSED TYPICAL SECTIONS

HORIZONTAL SCALE	FILE
AS NOTED	
VERTICAL SCALE	DESIGNATION
N/A	1700022
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	4 of 46
CONTRACT	PROJECT
R-42251	1700022

LEGEND

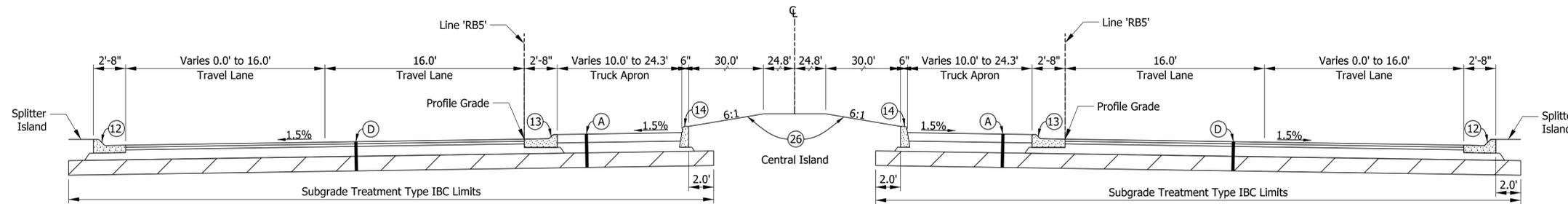
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HMA ALTERNATE

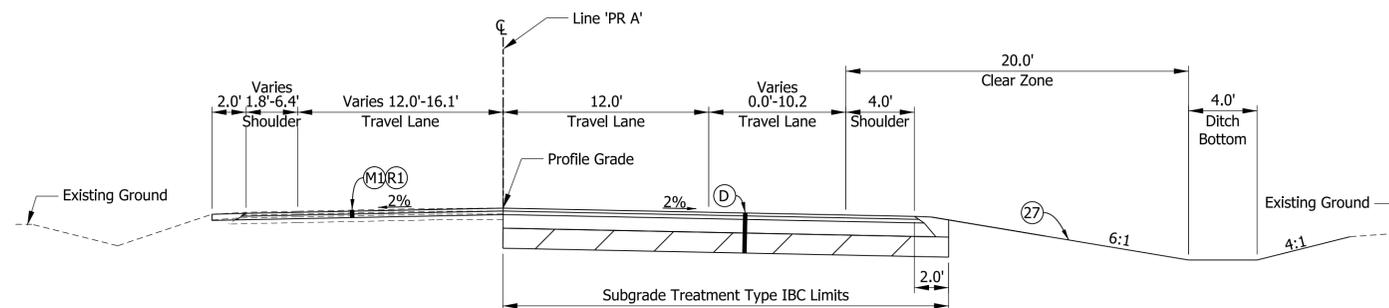
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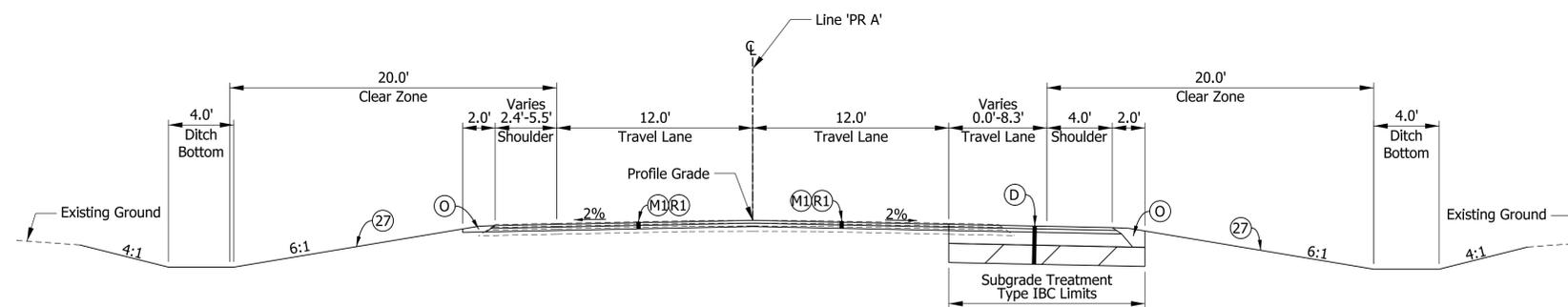
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Roundabout Circulatory Roadway at Splitter Island  
Scale: 3/16" = 1'-0"



US 231  
Scale: 3/16" = 1'-0"  
Sta 74+10.66 to Sta 75+20.57 Line 'PR\_A'



US 231  
Scale: 3/16" = 1'-0"  
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AS NOTED	
VERTICAL SCALE	DESIGNATION
N/A	1700022
SURVEY BOOK	SHEETS
	5 of 46
CONTRACT	PROJECT
R-42251	1700022

LEGEND

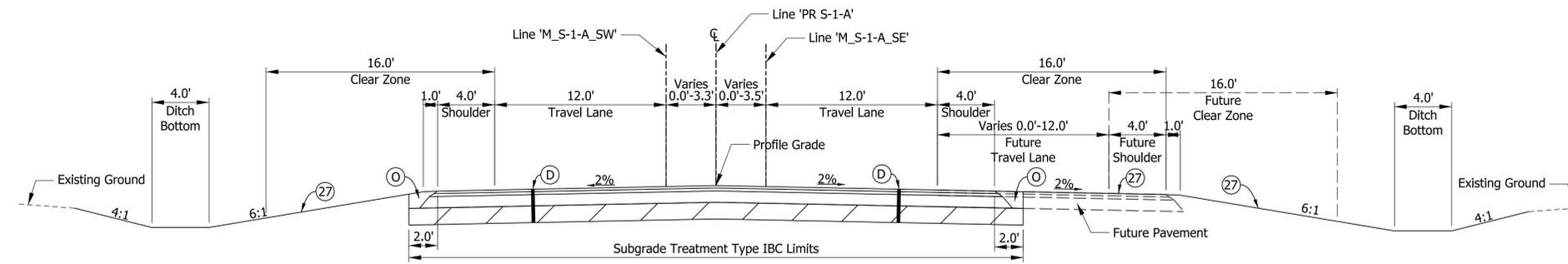
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HMA ALTERNATE

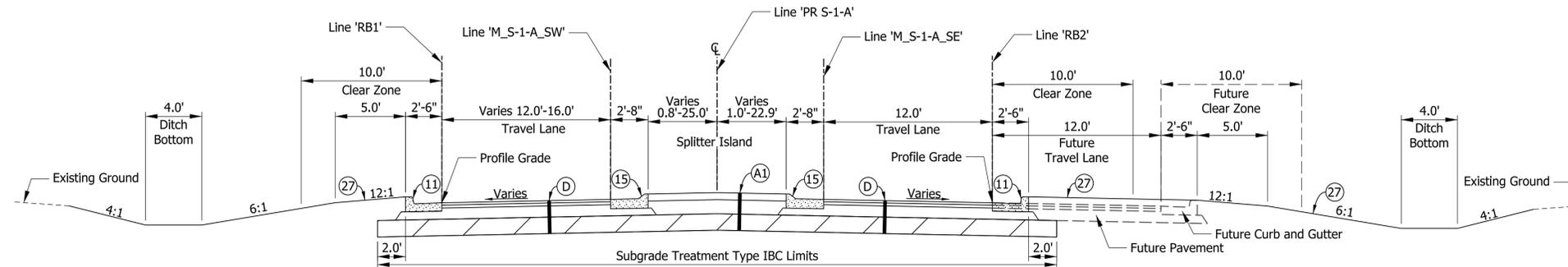
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PCCP ALTERNATE

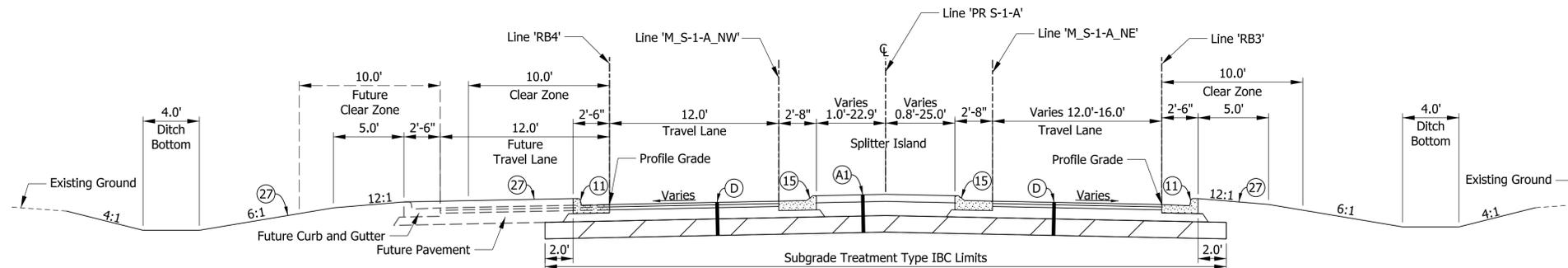
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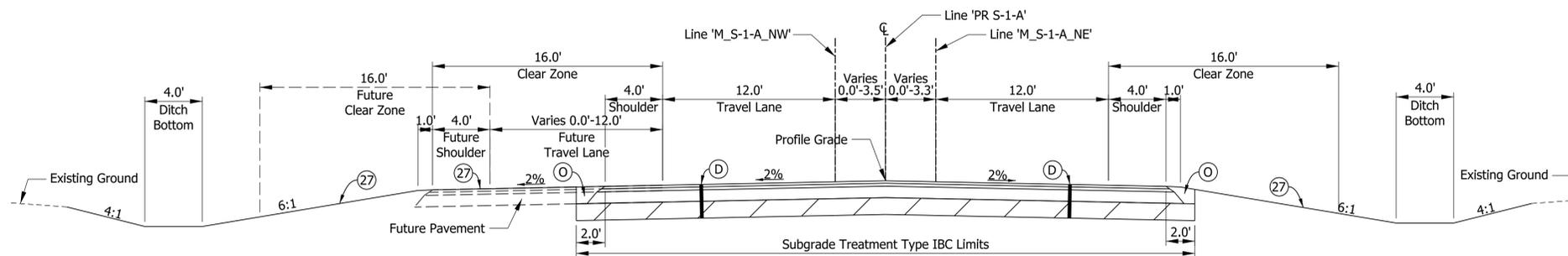
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Cline Ave  
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Cline Ave  
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Cline Ave  
Scale: 3/16" = 1'-0"  
Sta 153+04.00 to Sta 156+71.73 Line 'PR\_S-1-A'

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**PRELIMINARY**  
NOT FOR CONSTRUCTION  
DATE: 11/18/2021

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: PFR	DRAWN: PFR	
CHECKED: CLW	CHECKED: LRD	

INDIANA  
DEPARTMENT OF TRANSPORTATION

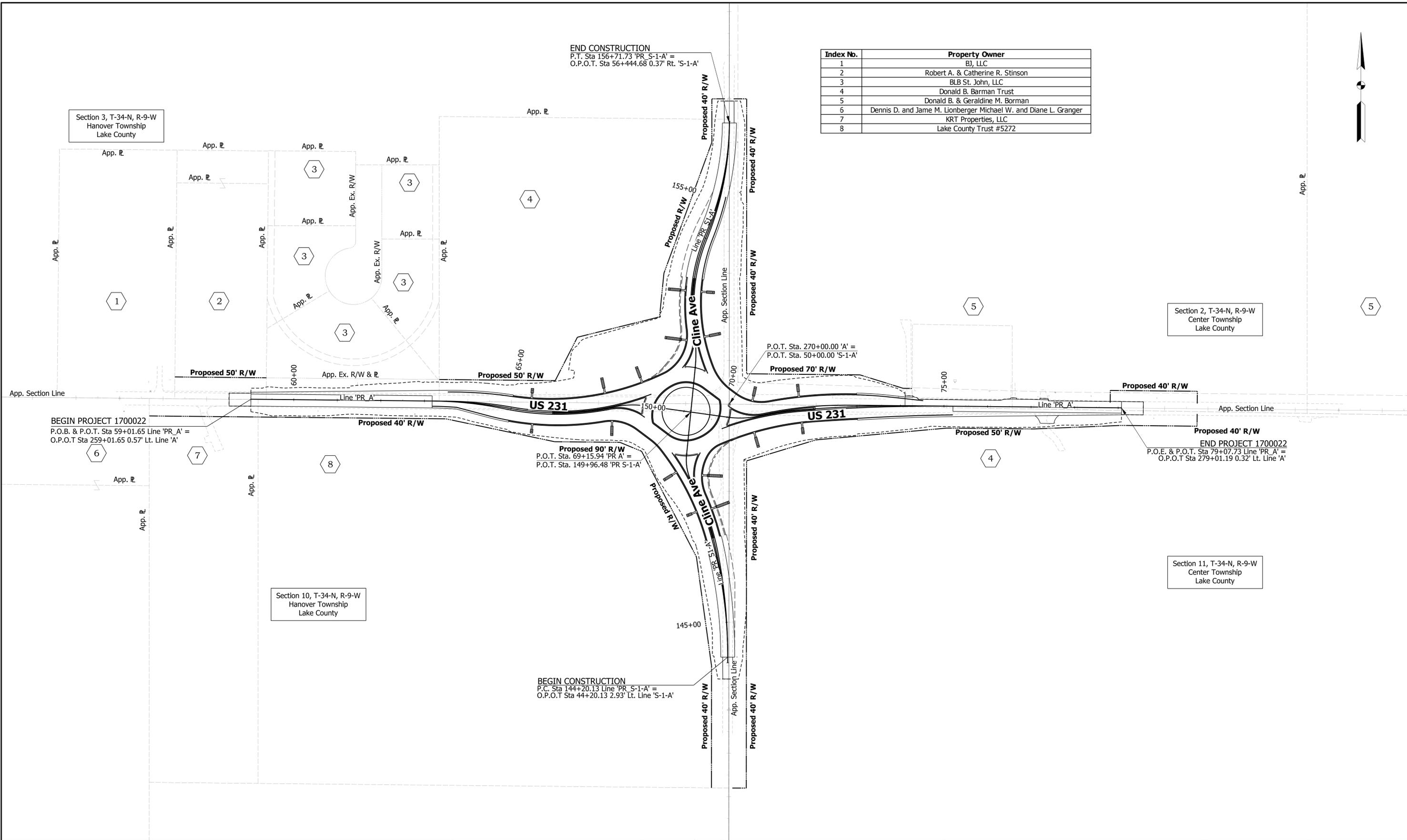
US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
PROPOSED TYPICAL SECTIONS

HORIZONTAL SCALE	FILE
AS NOTED	
VERTICAL SCALE	DESIGNATION
N/A	1700022
SURVEY BOOK	SHEETS
	6 of 46
CONTRACT	PROJECT
R-42251	1700022





Index No.	Property Owner
1	BJ, LLC
2	Robert A. & Catherine R. Stinson
3	BLB St. John, LLC
4	Donald B. Barman Trust
5	Donald B. & Geraldine M. Borman
6	Dennis D. and Jame M. Lionberger Michael W. and Diane L. Granger
7	KRT Properties, LLC
8	Lake County Trust #5272



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**PRELIMINARY**  
NOT FOR CONSTRUCTION  
DATE: 11/18/2021

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: PFR	DRAWN: PFR	
CHECKED: CLW	CHECKED: LRD	

**INDIANA**  
**DEPARTMENT OF TRANSPORTATION**

US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
PLAT NO. 1

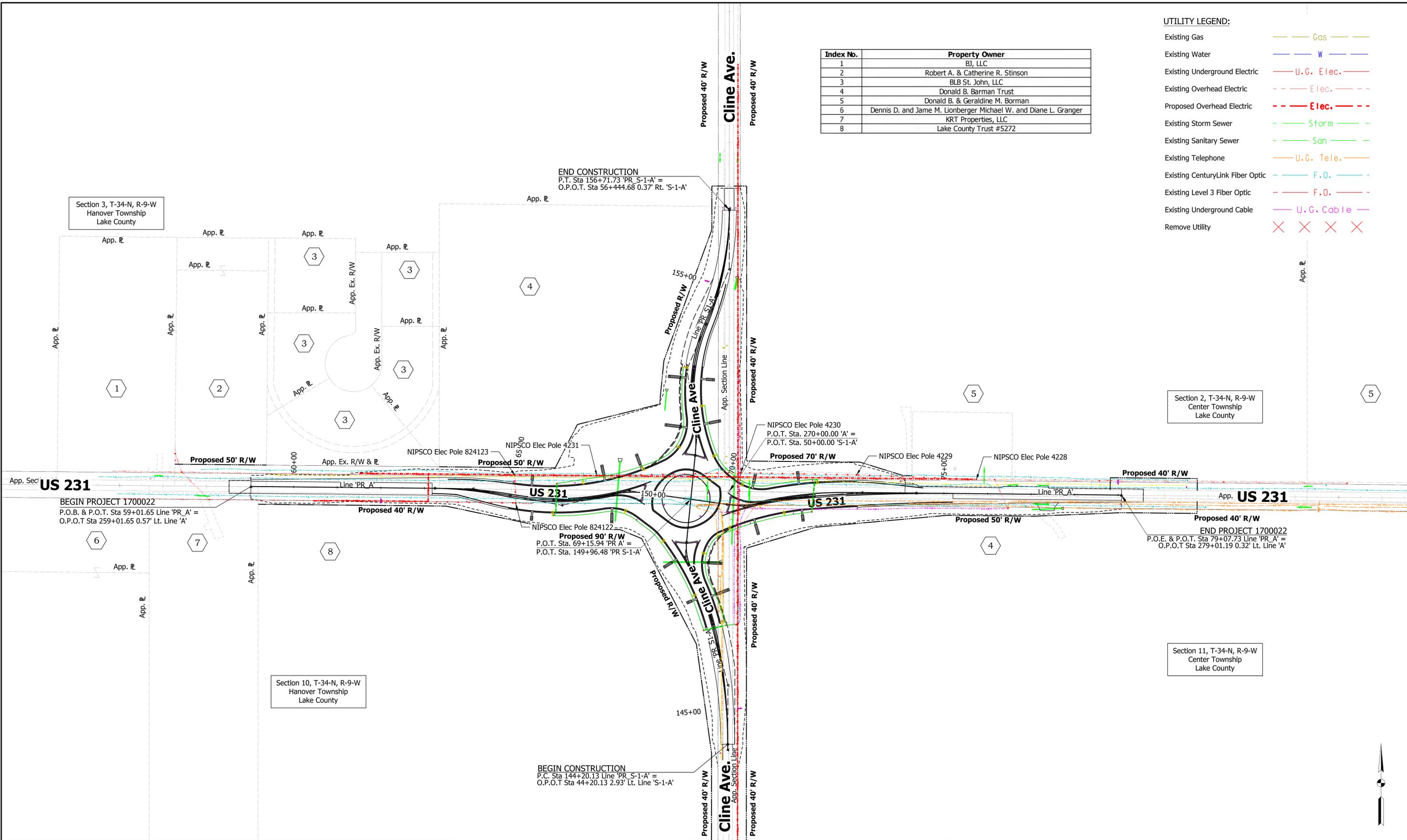
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1" = 100'	
VERTICAL SCALE	DESIGNATION
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SURVEY BOOK	SHEETS
	8 of 46
CONTRACT	PROJECT
R-42251	1700022

4/19/2021 2:58:29 PM pfr C:\projects\INDOT\1818-00\US 231-Cline Ave\1700022\Design\Sheets\Utilities\Plan No. 1\_U.dgn

Index No.	Property Owner
1	BJ, LLC
2	Robert A. & Catherine R. Stinson
3	BLB St. John, LLC
4	Donald B. Barman Trust
5	Donald B. & Geraldine M. Borman
6	Dennis D. and Jame M. Lionberger Michael W. and Diane L. Granger
7	KRT Properties, LLC
8	Lake County Trust #5272

**UTILITY LEGEND:**

Existing Gas		Gas
Existing Water		W
Existing Underground Electric		U.G. Elec.
Existing Overhead Electric		Elec.
Proposed Overhead Electric		Elec.
Existing Storm Sewer		Storm
Existing Sanitary Sewer		San
Existing Telephone		U.G. Tele.
Existing CenturyLink Fiber Optic		F.O.
Existing Level 3 Fiber Optic		F.O.
Existing Underground Cable		U.G. Cable
Remove Utility		X X X X



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**PRELIMINARY**  
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 DATE: 4/19/2021

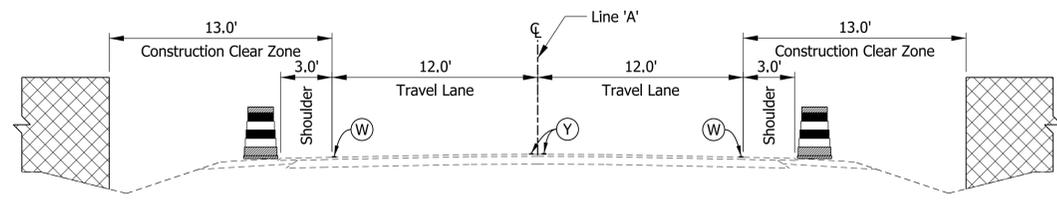
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DESIGNED: PFR	DRAWN: PFR	
CHECKED: CLW	CHECKED: LRD	

**INDIANA DEPARTMENT OF TRANSPORTATION**  
 US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
 OVERALL PROPOSED

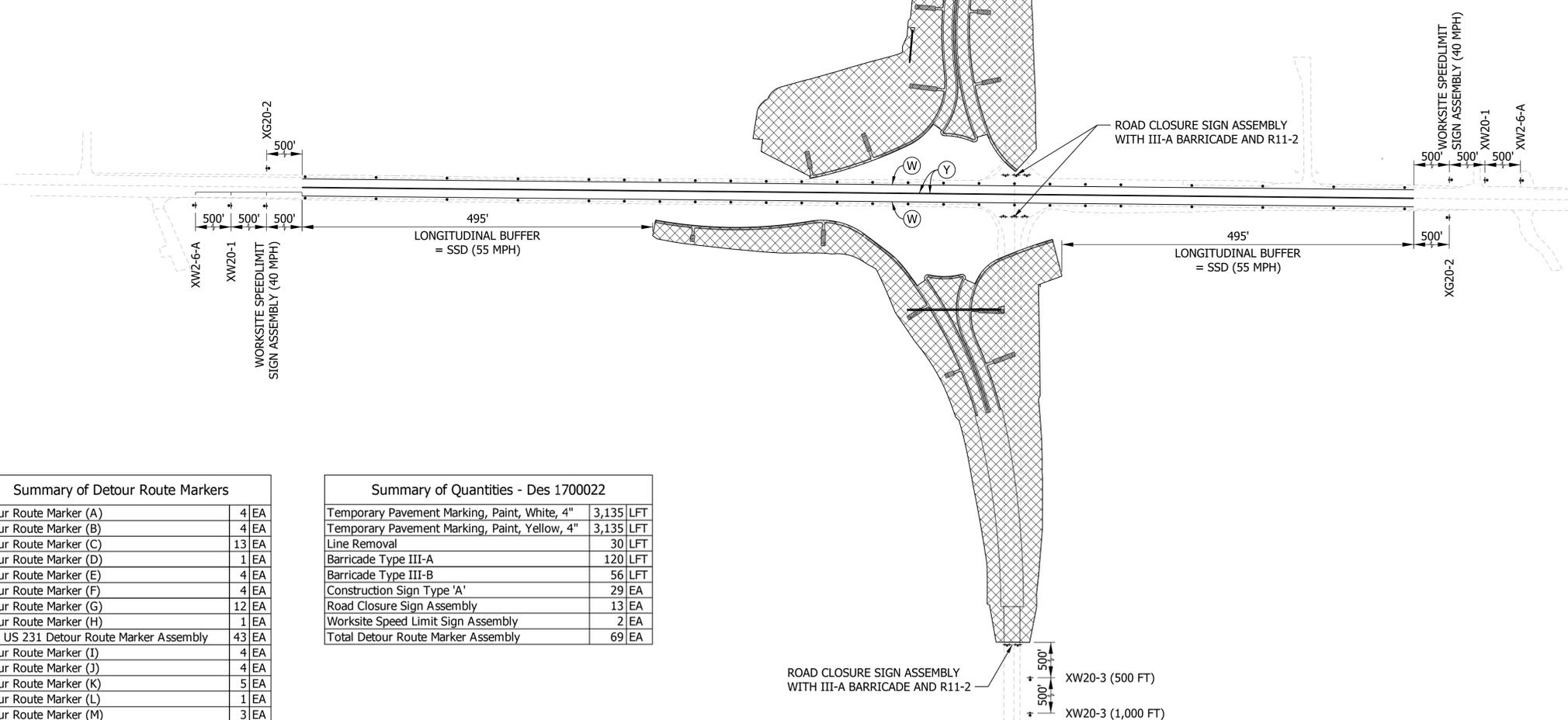
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1" = 100'	
VERTICAL SCALE	DESIGNATION
N/A	1700022
SURVEY BOOK	SHEETS
	3 of 31
CONTRACT	PROJECT
R-42251	1700022

**LEGEND:**

(W)	Temporary Pavement Marking, White 4"		XW20-1
(Y)	Temporary Pavement Marking, Yellow 4"		XW20-3
⊗	Type 'A' Construction Warning Light		XW20-3 (500 FT)
⊗	Type 'B' Construction Warning Light		XW20-3 (1,000 FT)
	Construction Sign		
	Channelizing Device		
	Construction Barrel		
	Barricade Type III-A/III-B		
	Construction Area		
	END CONSTRUCTION XG20-2		XG20-5P R2-1-B
	SPEEDING MAX 2000 RECKLESS DRIVING MAX 6 YRS XW2-6-A		



US 231 Phase 1 Typical Section



- General Notes:**
- Emergency traffic shall have access to the project area at all times.
  - Type A warning lights required on all type A construction signs.
  - Spacing of channeling devices shall be 50 ft within 100 ft of and including the workzone, otherwise 100 ft spacing should be used.
  - All materials, procedures, signs, marking flashers, and miscellaneous items shall conform to the requirements of the current INDOT Standard Specifications and the Indiana Manual on Uniform Traffic Control Devices.

- Phase 1 Construction Requirements:**
- Traffic shall be maintained on US 231.
  - Traffic on Cline Avenue shall be detoured. See sheet 11 for detour route.
  - Traffic signal heads for Cline Avenue shall be covered or removed. Traffic signal heads for US 231 shall display flashing yellow.
  - Existing Stop Bar pavement markings on US 231 shall be removed.
  - Ditches and basins south of US 231 shall be graded to drain to the existing culverts crossing US 231.

- Phase 1 Construction Items:**
- North and South approaches along Cline Avenue.

**Summary of Detour Route Markers**

Detour Route Marker (A)	4	EA
Detour Route Marker (B)	4	EA
Detour Route Marker (C)	13	EA
Detour Route Marker (D)	1	EA
Detour Route Marker (E)	4	EA
Detour Route Marker (F)	4	EA
Detour Route Marker (G)	12	EA
Detour Route Marker (H)	1	EA
Total US 231 Detour Route Marker Assembly	43	EA
Detour Route Marker (I)	4	EA
Detour Route Marker (J)	4	EA
Detour Route Marker (K)	5	EA
Detour Route Marker (L)	1	EA
Detour Route Marker (M)	3	EA
Detour Route Marker (N)	3	EA
Detour Route Marker (O)	5	EA
Detour Route Marker (P)	1	EA
Total Cline Ave Detour Route Marker Assembly	26	EA

**Summary of Quantities - Des 1700022**

Temporary Pavement Marking, Paint, White, 4"	3,135	LFT
Temporary Pavement Marking, Paint, Yellow, 4"	3,135	LFT
Line Removal	30	LFT
Barricade Type III-A	120	LFT
Barricade Type III-B	56	LFT
Construction Sign Type 'A'	29	EA
Road Closure Sign Assembly	13	EA
Worksite Speed Limit Sign Assembly	2	EA
Total Detour Route Marker Assembly	69	EA

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**PRELIMINARY**  
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RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: PFR	DRAWN: PFR	
CHECKED: CLW	CHECKED: LRD	

**INDIANA**  
**DEPARTMENT OF TRANSPORTATION**

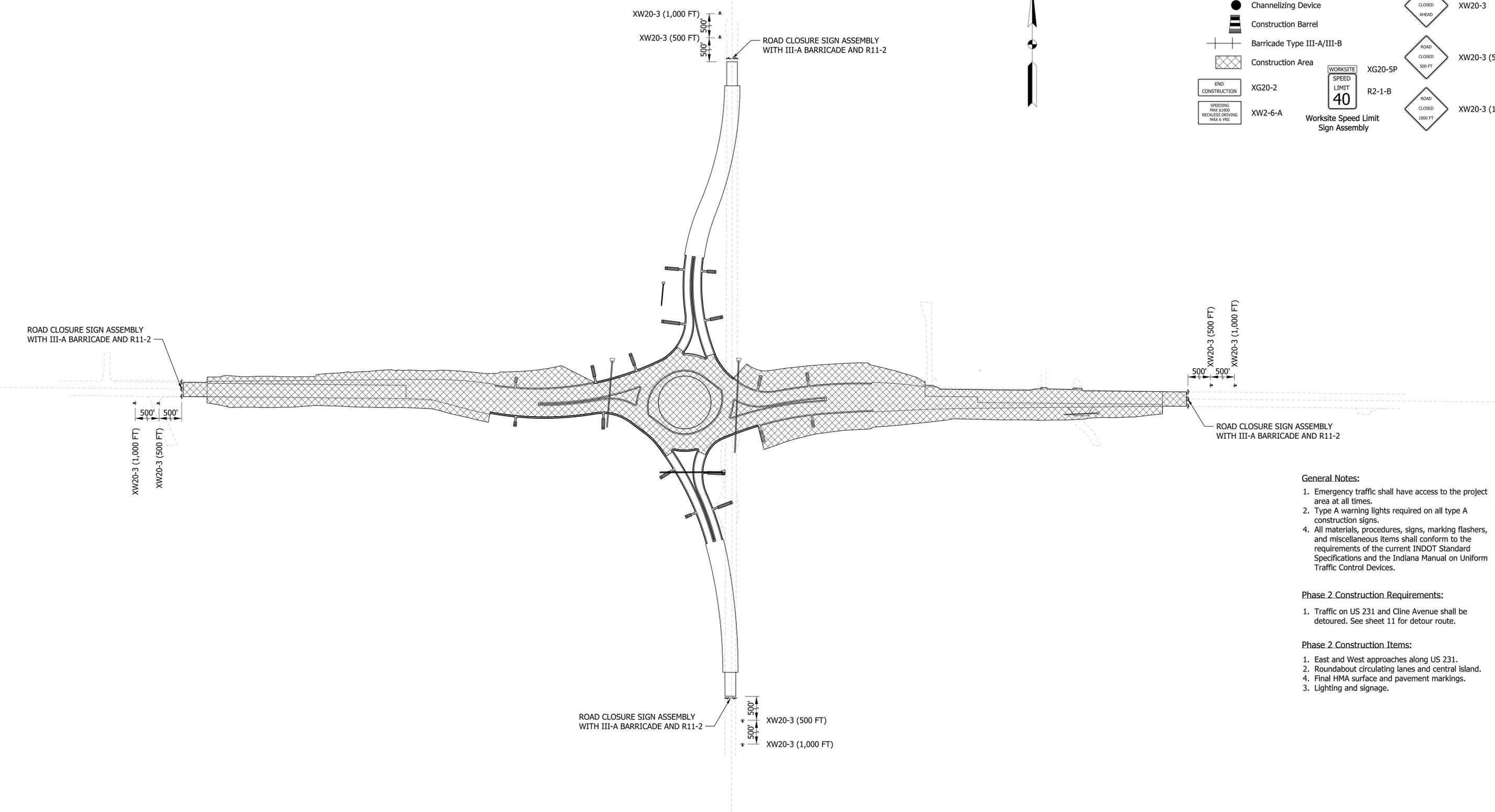
US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
MAINTENANCE OF TRAFFIC - PHASE 1

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1" = 100'	
VERTICAL SCALE	DESIGNATION
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SURVEY BOOK	SHEETS
	9 of 46
CONTRACT	PROJECT
R-42251	1700022

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**LEGEND:**

(W)	Temporary Pavement Marking, White 4"		XW20-1
(Y)	Temporary Pavement Marking, Yellow 4"		XW20-3
⊗	Type 'A' Construction Warning Light		XW20-3 (500 FT)
⊗	Type 'B' Construction Warning Light		XW20-3 (1,000 FT)
	Construction Sign		
	Channelizing Device		
	Construction Barrel		
	Barricade Type III-A/III-B		
	Construction Area		
	END CONSTRUCTION XG20-2		
	SPEEDING MAX 2000 RECKLESS DRIVING MAX 6 YRS XW2-6-A		



- General Notes:**
- Emergency traffic shall have access to the project area at all times.
  - Type A warning lights required on all type A construction signs.
  - All materials, procedures, signs, marking flashers, and miscellaneous items shall conform to the requirements of the current INDOT Standard Specifications and the Indiana Manual on Uniform Traffic Control Devices.
- Phase 2 Construction Requirements:**
- Traffic on US 231 and Cline Avenue shall be detoured. See sheet 11 for detour route.
- Phase 2 Construction Items:**
- East and West approaches along US 231.
  - Roundabout circulating lanes and central island.
  - Final HMA surface and pavement markings.
  - Lighting and signage.



**PRELIMINARY**  
NOT FOR CONSTRUCTION  
DATE: 1/18/2021

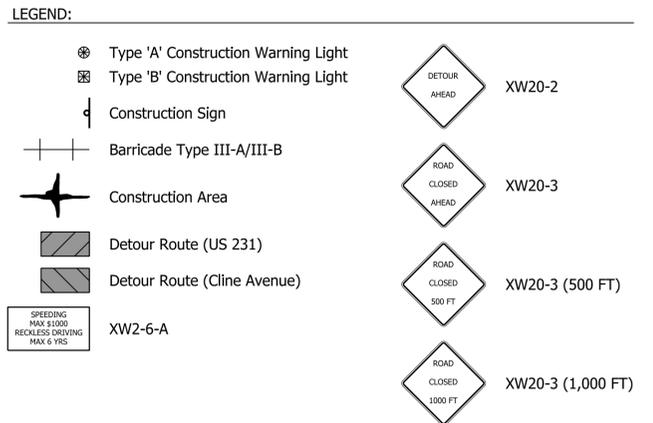
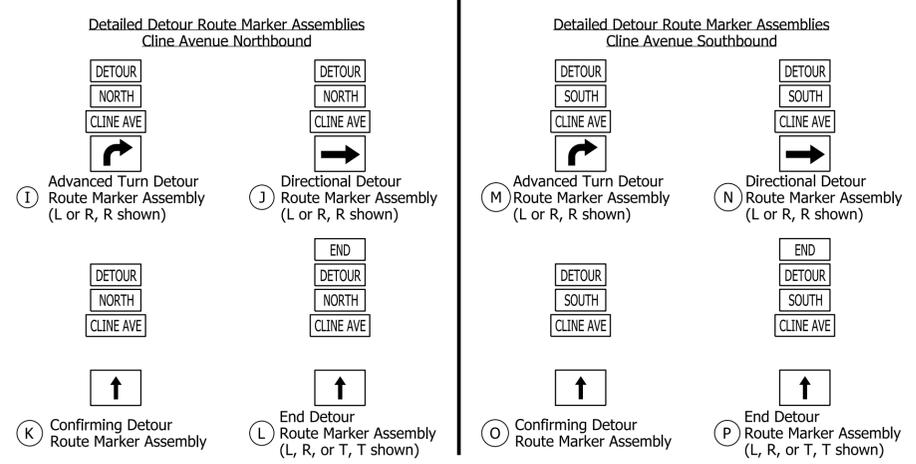
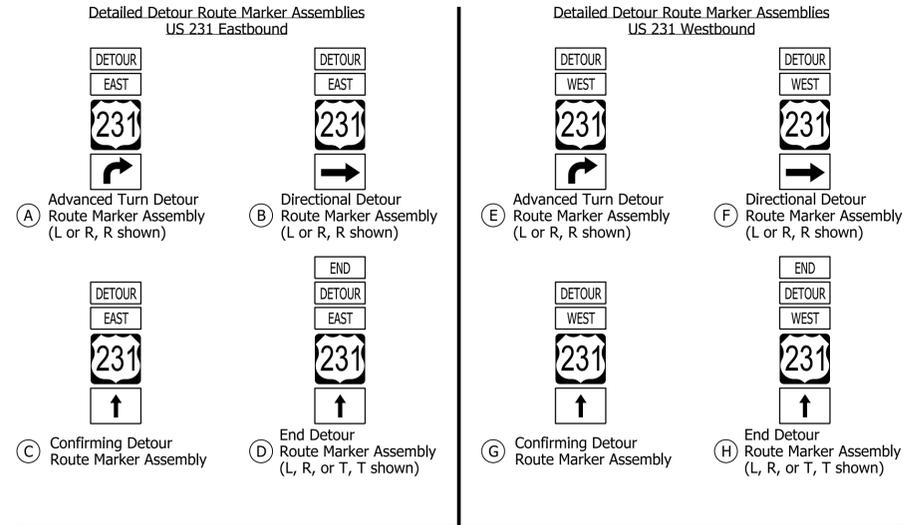
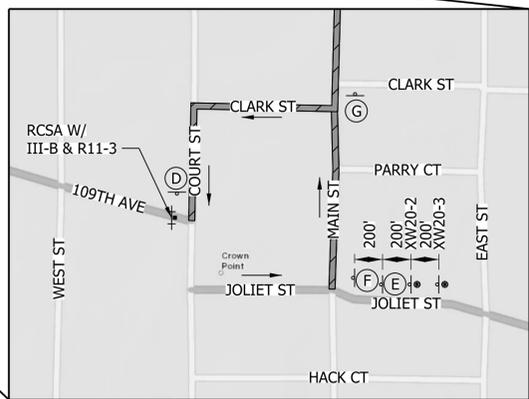
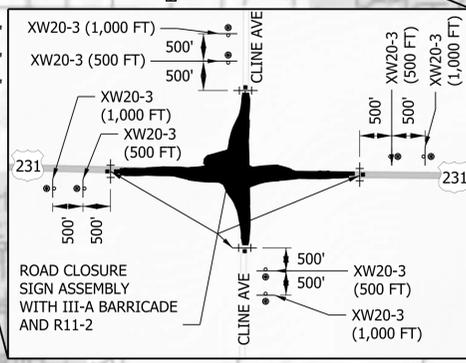
RECOMMENDED FOR APPROVAL _____	DESIGN ENGINEER _____	DATE _____
DESIGNED: PFR _____	DRAWN: PFR _____	
CHECKED: CLW _____	CHECKED: LRD _____	

**INDIANA**  
**DEPARTMENT OF TRANSPORTATION**

US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
MAINTENANCE OF TRAFFIC - PHASE 2

HORIZONTAL SCALE	FILE
1" = 100'	
VERTICAL SCALE	DESIGNATION
N/A	1700022
SURVEY BOOK	SHEETS
	10 of 46
CONTRACT	PROJECT
R-42251	1700022

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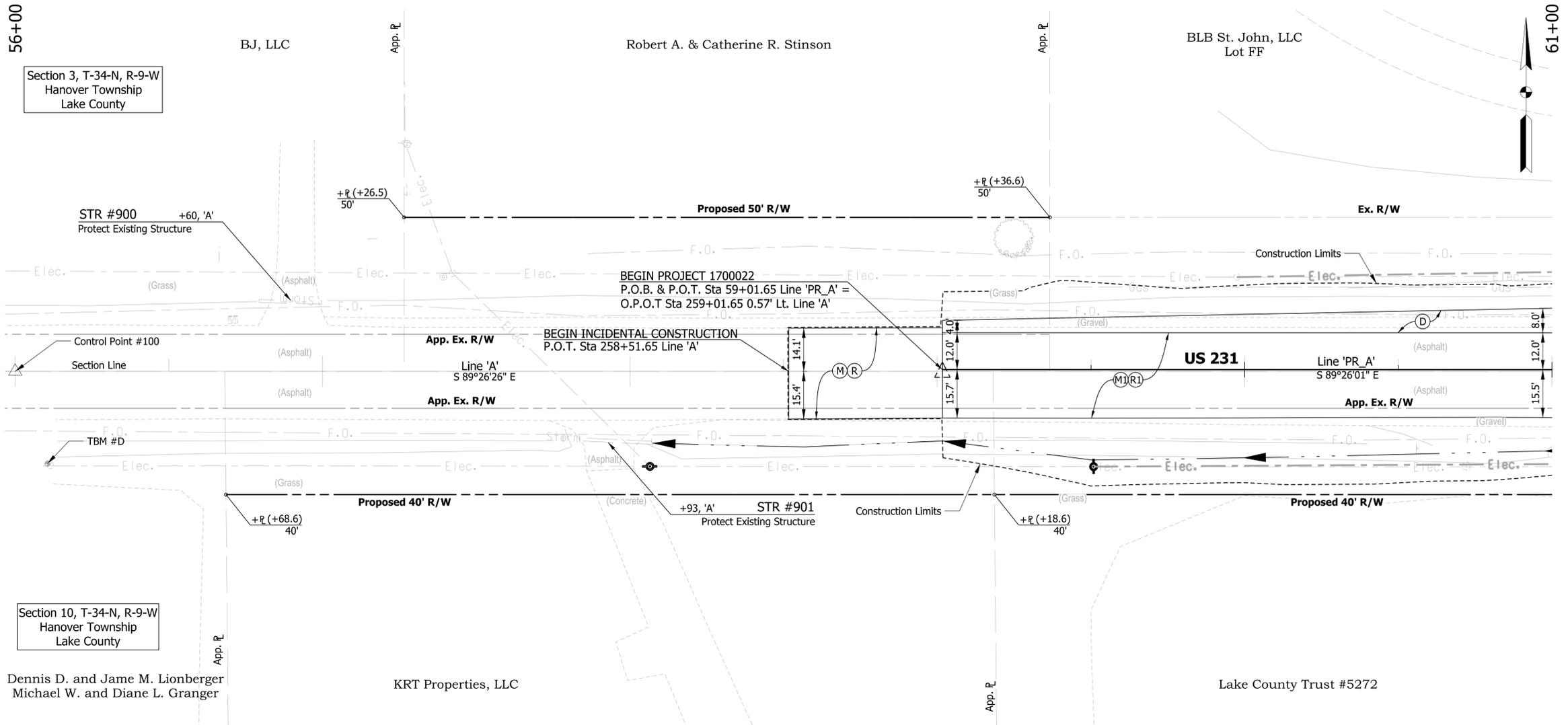
**PRELIMINARY**  
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INDIANA  
DEPARTMENT OF TRANSPORTATION

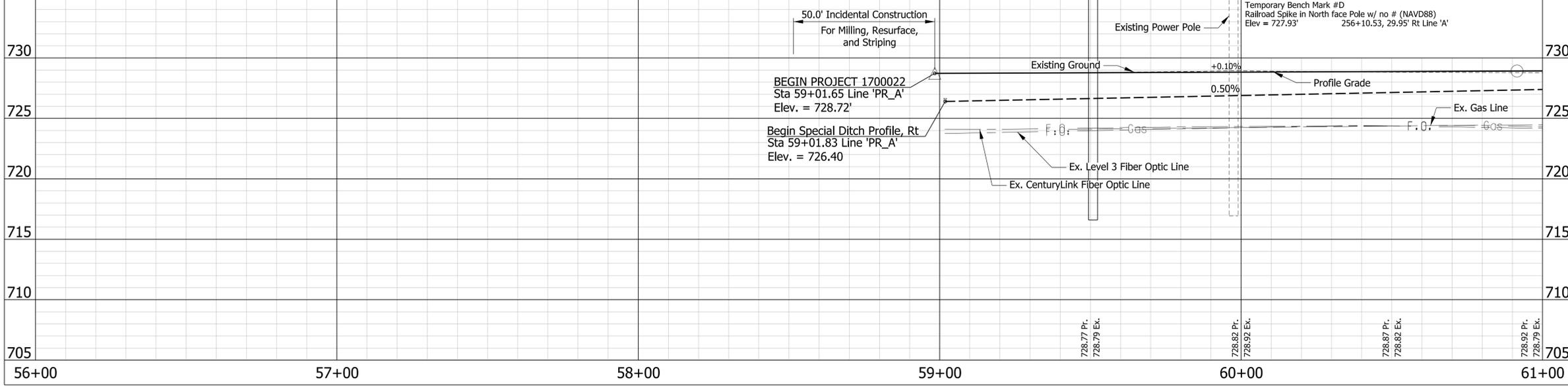
US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
MAINTENANCE OF TRAFFIC - DETOUR ROUTES

HORIZONTAL SCALE	FILE
1" = 300'	
VERTICAL SCALE	DESIGNATION
N/A	1700022
SURVEY BOOK	SHEETS
	11 of 46
CONTRACT	PROJECT
R-42251	1700022



- LEGEND**
- (C) HMA for Approaches, Type B, Consisting of:  
165 lb/syd HMA Surface, on  
275 lb/syd HMA Intermediate, on  
6 in. Compacted Aggregate No. 53, on  
Subgrade Treatment Type II
  - (C1) 6 in. Compacted Aggregate No. 53
  - (M) Asphalt Milling, Transition, 2.0 in. Maximum
  - (M1) Milling, Profile
  - (R) 220 lb/syd QC/QA HMA, 3, 76, Surface 9.5 mm
  - (R1) 220 lb/syd QC/QA HMA, 3, 76, Surface 9.5 mm, on,  
275 lb/syd QC/QA HMA, 3, 76, Intermediate 19.0 mm
  - (11) Curb and Gutter, Concrete
  - (12) Curb and Gutter, B, Concrete
  - (13) Curb and Gutter, B, Concrete, Modified (Inverted) (3")
  - (14) Curb, Integral, Concrete
  - (15) Curb and Gutter, B, Concrete, Modified (Inverted)
  - (18) Curb and Gutter, Turn Out Concrete
  - (26) Sodding on 4" of Topsoil
  - (28) Turf Reinforcement Mat
- HMA ALTERNATE**
- (A) 8.0 in. PCCP (Colored)  
(17 ft maximum joint spacing,  
1 in. diameter dowel bars), on  
10 in. Compacted Aggregate No. 53  
Subgrade Treatment, Type IBC
  - (A1) 6 in. PCCP (Colored), on  
12 in. Dense Graded Subbase, on  
Subgrade Treatment Type IBC
  - (D) 220 lb/syd QC/QA HMA, 3, 76, Surface, 9.5 mm, on  
275 lb/syd QC/QA HMA, 3, 76, Intermediate, 19.0 mm, on  
1045 lb/syd QC/QA HMA, 3, 64, Base, 19.0 mm (3 lifts), on  
Subgrade Treatment, Type IBC
- PCCP ALTERNATE**
- (A) 8.0 in. PCCP (Colored)  
(17 ft maximum joint spacing,  
1 in. diameter dowel bars), on  
12 in. Compacted Aggregate No. 53  
Subgrade Treatment, Type IBC
  - (A1) 6 in. PCCP (Colored), on  
14 in. Dense Graded Subbase, on  
Subgrade Treatment Type IBC
  - (D) QC/QA PCCP, 10 in.  
(17 ft joint spacing for roundabout and  
16 ft joint spacing for approaches,  
1.5 in. bars at 12 in. spacing), on  
6 in. Dense Graded Subbase, on  
Subgrade Treatment, Type IBC

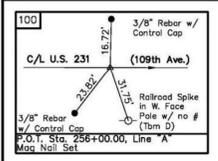
ALL TOPOGRAPHY ON THIS SHEET DESCRIBED FROM LINE 'PR\_A' UNLESS OTHERWISE NOTED. ALL R/W ON THIS SHEET DESCRIBED FROM LINE 'A' UNLESS OTHERWISE NOTED.



EARTHWORK SUMMARY TABLE		
Des #1700022		
Cut (Cross Sections)	10768	CYS
Cut (Cline Ave)	235	CYS
Total Common Excavation	11003	CYS
* Less Unsuitable Material	4328	CYS
Usable Material	6675	CYS
Fill	11853	CYS
+25% Shrinkage	2963	CYS
Total Fill	14816	CYS
Less Useable Common Excavation	6675	CYS
Borrow	8141	CYS

Note to Reviewer:  
Topo Notes have been  
Requested from the Surveyor

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**PRELIMINARY**  
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CHECKED: CLW	CHECKED: LRD	

**INDIANA**  
**DEPARTMENT OF TRANSPORTATION**

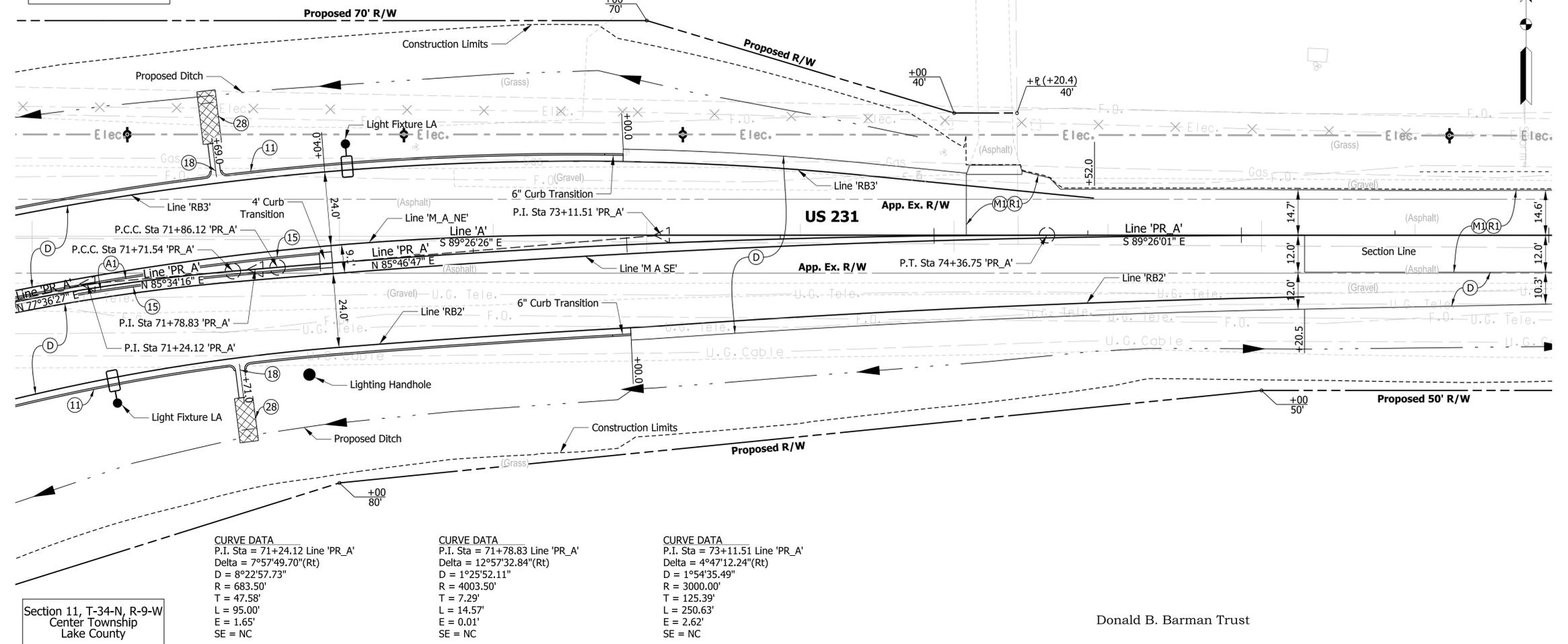
US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
PLAN AND PROFILE LINE 'PR\_A'

HORIZONTAL SCALE	FILE
1" = 20'	
VERTICAL SCALE	DESIGNATION
1" = 5'	1700022
SURVEY BOOK	SHEETS
	12 of 46
CONTRACT	PROJECT
R-42251	1700022





Section 2, T-34-N, R-9-W  
Center Township  
Lake County



**CURVE DATA**  
P.I. Sta = 71+24.12 Line 'PR\_A'  
Delta = 7°57'49.70"(Rt)  
D = 8°22'57.73"  
R = 683.50'  
T = 47.58'  
L = 95.00'  
E = 1.65'  
SE = NC

**CURVE DATA**  
P.I. Sta = 71+78.83 Line 'PR\_A'  
Delta = 12°57'32.84"(Rt)  
D = 1°25'52.11"  
R = 4003.50'  
T = 7.29'  
L = 14.57'  
E = 0.01'  
SE = NC

**CURVE DATA**  
P.I. Sta = 73+11.51 Line 'PR\_A'  
Delta = 4°47'12.24"(Rt)  
D = 1°54'35.49"  
R = 3000.00'  
T = 125.39'  
L = 250.63'  
E = 2.62'  
SE = NC

Section 11, T-34-N, R-9-W  
Center Township  
Lake County

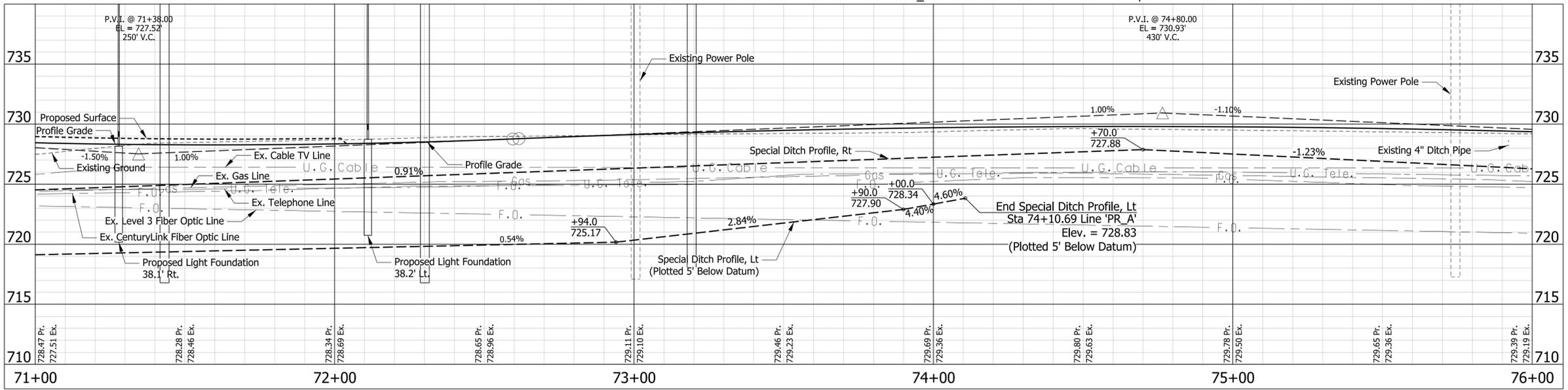
Donald B. Barman Trust

- LEGEND**
- (C) HMA for Approaches, Type B, Consisting of:  
165 lb/syd HMA Surface, on  
275 lb/syd HMA Intermediate, on  
6 in. Compacted Aggregate No. 53, on  
Subgrade Treatment Type II
  - (C1) 6 in. Compacted Aggregate No. 53
  - (M) Asphalt Milling, Transition, 2.0 in. Maximum
  - (M1) Milling, Profile
  - (R) 220 lb/syd QC/QA HMA, 3, 76, Surface 9.5 mm
  - (R1) 220 lb/syd QC/QA HMA, 3, 76, Surface 9.5 mm, on,  
275 lb/syd QC/QA HMA, 3, 76, Intermediate 19.0 mm
  - (11) Curb and Gutter, Concrete
  - (12) Curb and Gutter, B, Concrete
  - (13) Curb and Gutter, B, Concrete, Modified (Inverted) (3")
  - (14) Curb, Integral, Concrete
  - (15) Curb and Gutter, B, Concrete, Modified (Inverted)
  - (18) Curb and Gutter, Turn Out Concrete
  - (26) Sodding on 4" of Topsoil
  - (28) Turf Reinforcement Mat

- HMA ALTERNATE**
- (A) 8.0 in. PCCP (Colored)  
(17 ft maximum joint spacing,  
1 in. diameter dowel bars), on  
10 in. Compacted Aggregate No. 53  
Subgrade Treatment, Type IBC
  - (A1) 6 in. PCCP (Colored), on  
12 in. Dense Graded Subbase, on  
Subgrade Treatment Type IBC
  - (D) 220 lb/syd QC/QA HMA, 3, 76, Surface, 9.5 mm, on  
275 lb/syd QC/QA HMA, 3, 76, Intermediate, 19.0 mm, on  
1045 lb/syd QC/QA HMA, 3, 64, Base, 19.0 mm (3 lifts), on  
Subgrade Treatment, Type IBC

- PCCP ALTERNATE**
- (A) 8.0 in. PCCP (Colored)  
(17 ft maximum joint spacing,  
1 in. diameter dowel bars), on  
12 in. Compacted Aggregate No. 53  
Subgrade Treatment, Type IBC
  - (A1) 6 in. PCCP (Colored), on  
14 in. Dense Graded Subbase, on  
Subgrade Treatment Type IBC
  - (D) QC/QA PCCP, 10 in.  
(17 ft joint spacing for roundabout and  
16 ft joint spacing for approaches,  
1.5 in. bars at 12 in. spacing), on  
6 in. Dense Graded Subbase, on  
Subgrade Treatment, Type IBC

ALL TOPOGRAPHY ON THIS SHEET DESCRIBED FROM LINE 'PR\_A' UNLESS OTHERWISE NOTED. ALL R/W ON THIS SHEET DESCRIBED FROM LINE 'A' UNLESS OTHERWISE NOTED.



Note to Reviewer:  
Topo Notes have been  
Requested from the Surveyor

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**PRELIMINARY**  
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DATE: 11/18/2021

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: PFR	DRAWN: PFR	
CHECKED: CLW	CHECKED: LRD	

**INDIANA**  
**DEPARTMENT OF TRANSPORTATION**

US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
PLAN AND PROFILE LINE 'PR\_A'

HORIZONTAL SCALE	FILE
1" = 20'	
VERTICAL SCALE	DESIGNATION
1" = 5'	1700022
SURVEY BOOK	SHEETS
	15 of 46
CONTRACT	PROJECT
R-42251	1700022

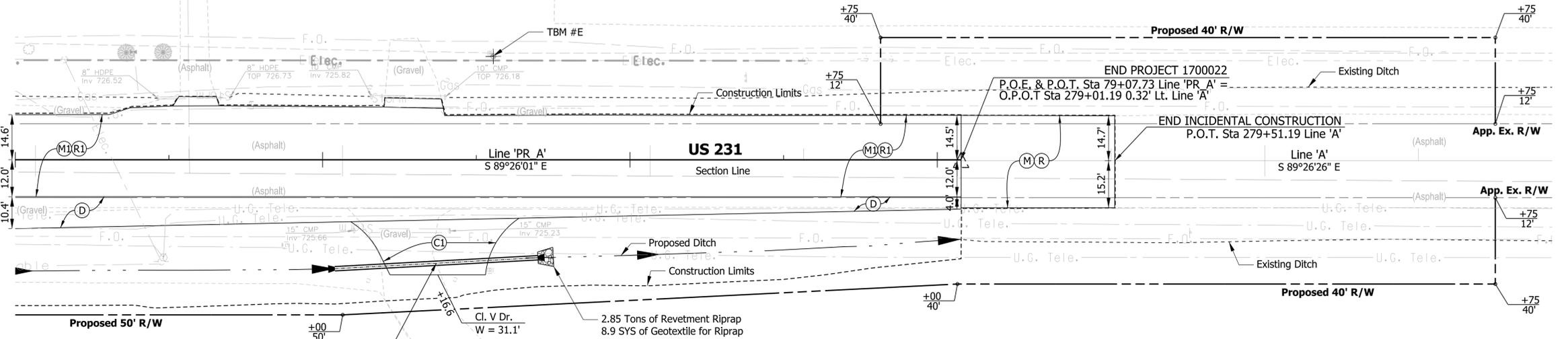
76+00

81+00

Section 2, T-34-N, R-9-W  
Center Township  
Lake County

Donald B. Geraldine M.  
Barman

Donald B. Geraldine M.  
Barman



STR #603 +31, 33.6' Rt 'PR\_A'  
67' of 15" Pipe w/  
2 End Sections Req'd

Section 11, T-34-N, R-9-W  
Center Township  
Lake County

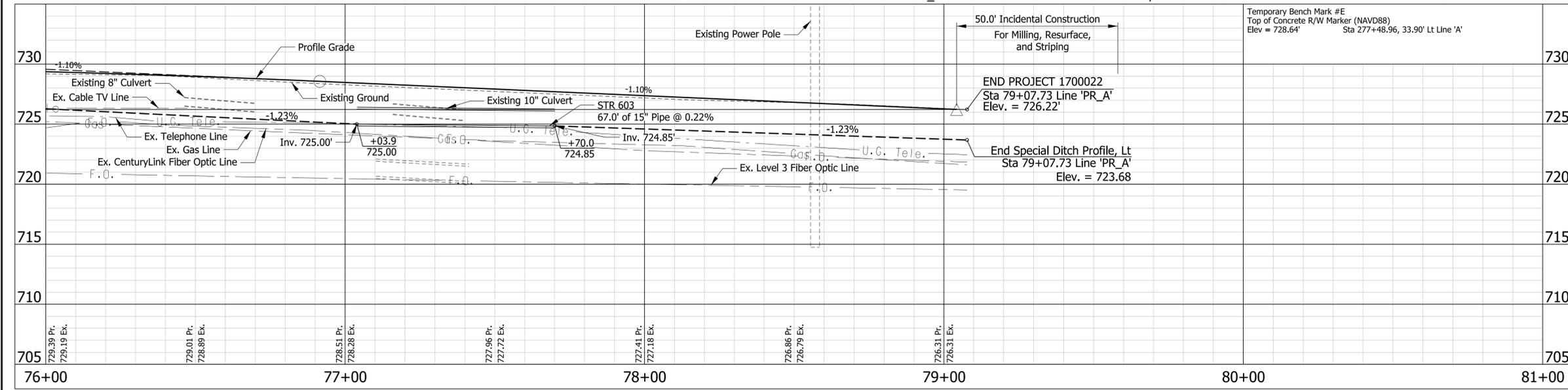
Donald B. Barman Trust

- LEGEND**
- (C) HMA for Approaches, Type B, Consisting of:  
165 lb/syd HMA Surface, on  
275 lb/syd HMA Intermediate, on  
6 in. Compacted Aggregate No. 53, on  
Subgrade Treatment Type II
  - (Cl) 6 in. Compacted Aggregate No. 53
  - (M) Asphalt Milling, Transition, 2.0 in. Maximum
  - (M1) Milling, Profile
  - (R) 220 lb/syd QC/QA HMA, 3, 76, Surface 9.5 mm
  - (R1) 220 lb/syd QC/QA HMA, 3, 76, Surface 9.5 mm, on,  
275 lb/syd QC/QA HMA, 3, 76, Intermediate 19.0 mm
  - (11) Curb and Gutter, Concrete
  - (12) Curb and Gutter, B, Concrete
  - (13) Curb and Gutter, B, Concrete, Modified (Inverted) (3")
  - (14) Curb, Integral, Concrete
  - (15) Curb and Gutter, B, Concrete, Modified (Inverted)
  - (18) Curb and Gutter, Turn Out Concrete
  - (26) Sodding on 4" of Topsoil
  - (28) Turf Reinforcement Mat

- HMA ALTERNATE**
- (A) 8.0 in. PCCP (Colored)  
(17 ft maximum joint spacing,  
1 in. diameter dowel bars), on  
10 in. Compacted Aggregate No. 53  
Subgrade Treatment, Type IBC
  - (A1) 6 in. PCCP (Colored), on  
12 in. Dense Graded Subbase, on  
Subgrade Treatment Type IBC
  - (D) 220 lb/syd QC/QA HMA, 3, 76, Surface, 9.5 mm, on  
275 lb/syd QC/QA HMA, 3, 76, Intermediate, 19.0 mm, on  
1045 lb/syd QC/QA HMA, 3, 64, Base, 19.0 mm (3 lifts), on  
Subgrade Treatment, Type IBC

- PCCP ALTERNATE**
- (A) 8.0 in. PCCP (Colored)  
(17 ft maximum joint spacing,  
1 in. diameter dowel bars), on  
12 in. Compacted Aggregate No. 53  
Subgrade Treatment, Type IBC
  - (A1) 6 in. PCCP (Colored), on  
14 in. Dense Graded Subbase, on  
Subgrade Treatment Type IBC
  - (D) QC/QA PCCP, 10 in.  
(17 ft joint spacing for roundabout and  
16 ft joint spacing for approaches,  
1.5 in. bars at 12 in. spacing), on  
6 in. Dense Graded Subbase, on  
Subgrade Treatment, Type IBC

ALL TOPOGRAPHY ON THIS SHEET DESCRIBED FROM LINE 'PR\_A' UNLESS OTHERWISE NOTED. ALL R/W ON THIS SHEET DESCRIBED FROM LINE 'A' UNLESS OTHERWISE NOTED.



Note to Reviewer:  
Topo Notes have been  
Requested from the Surveyor

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**PRELIMINARY**  
NOT FOR CONSTRUCTION  
DATE: 11/18/2021

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: PFR	DRAWN: PFR	
CHECKED: CLW	CHECKED: LRD	

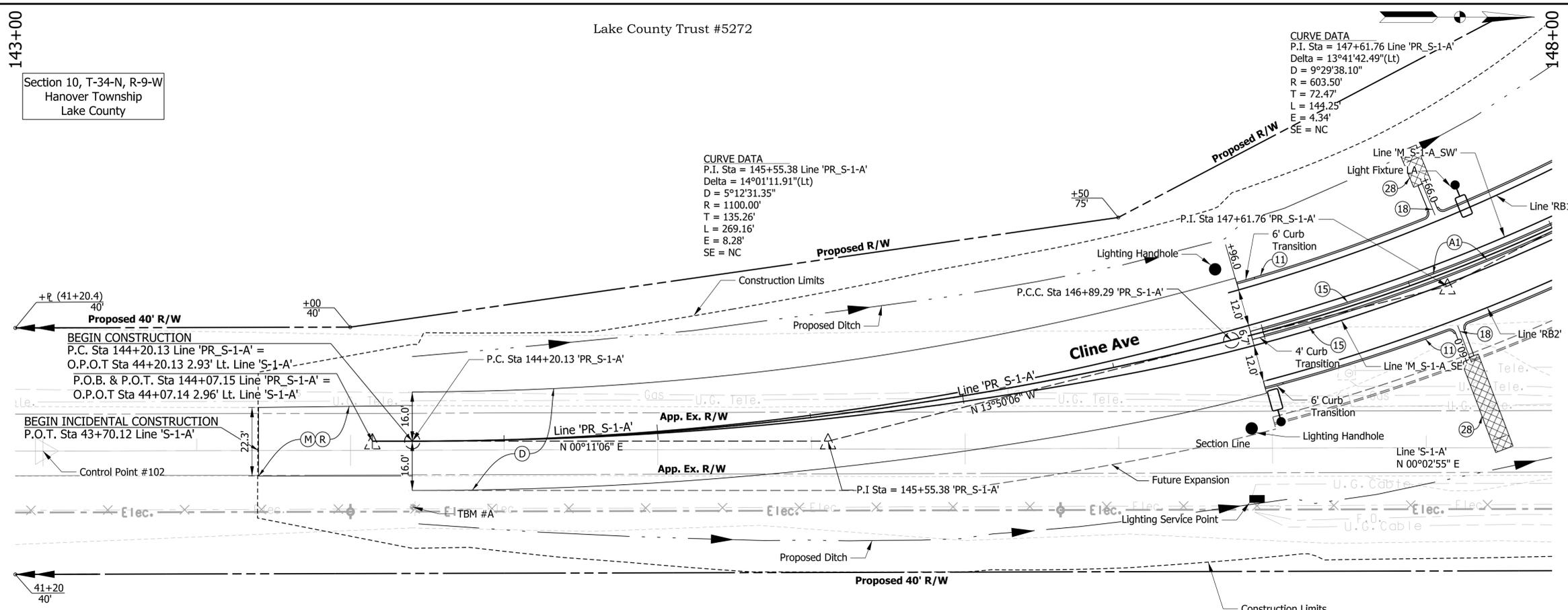
INDIANA  
DEPARTMENT OF TRANSPORTATION

US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
PLAN AND PROFILE LINE 'PR\_A'

HORIZONTAL SCALE	FILE
1" = 20'	
VERTICAL SCALE	DESIGNATION
1" = 5'	1700022
SURVEY BOOK	SHEETS
	16 of 46
CONTRACT	PROJECT
R-42251	1700022

Section 10, T-34-N, R-9-W  
Hanover Township  
Lake County

Lake County Trust #5272



Section 11, T-34-N, R-9-W  
Center Township  
Lake County

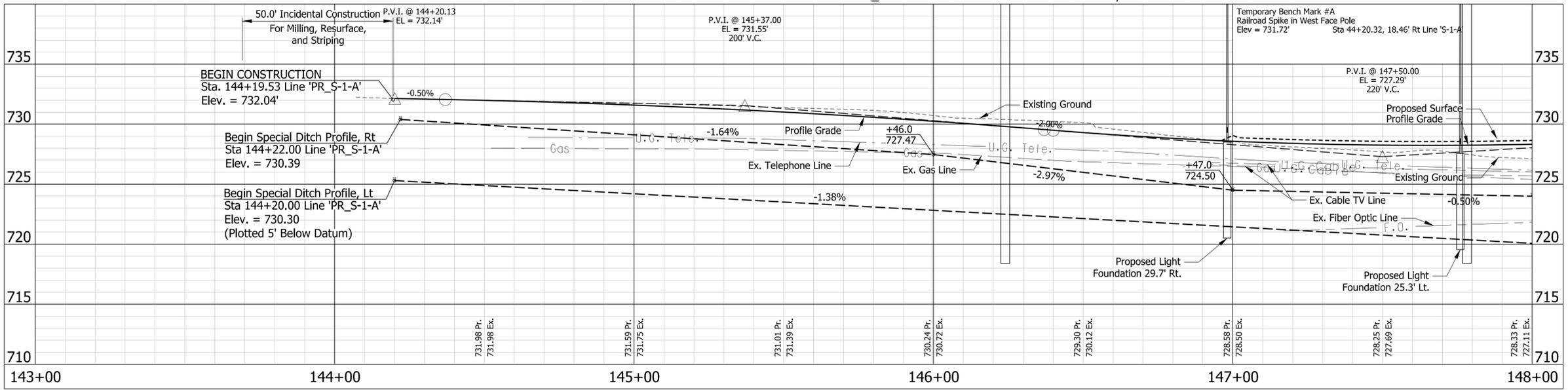
Donald B. Barman Trust

- LEGEND**
- (C) HMA for Approaches, Type B, Consisting of:  
165 lb/syd HMA Surface, on  
275 lb/syd HMA Intermediate, on  
6 in. Compacted Aggregate No. 53, on  
Subgrade Treatment Type II
  - (C1) 6 in. Compacted Aggregate No. 53
  - (M) Asphalt Milling, Transition, 2.0 in. Maximum
  - (M1) Milling, Profile
  - (R) 220 lb/syd QC/QA HMA, 3, 76, Surface 9.5 mm
  - (R1) 220 lb/syd QC/QA HMA, 3, 76, Surface 9.5 mm, on,  
275 lb/syd QC/QA HMA, 3, 76, Intermediate 19.0 mm
  - (11) Curb and Gutter, Concrete
  - (12) Curb and Gutter, B, Concrete
  - (13) Curb and Gutter, B, Concrete, Modified (Inverted) (3")
  - (14) Curb, Integral, Concrete
  - (15) Curb and Gutter, B, Concrete, Modified (Inverted)
  - (18) Curb and Gutter, Turn Out Concrete
  - (26) Sodding on 4" of Topsoil
  - (28) Turf Reinforcement Mat

- HMA ALTERNATE**
- (A) 8.0 in. PCCP (Colored)  
(17 ft maximum joint spacing,  
1 in. diameter dowel bars), on  
10 in. Compacted Aggregate No. 53  
Subgrade Treatment, Type IBC
  - (A1) 6 in. PCCP (Colored), on  
12 in. Dense Graded Subbase, on  
Subgrade Treatment Type IBC
  - (D) 220 lb/syd QC/QA HMA, 3, 76, Surface, 9.5 mm, on  
275 lb/syd QC/QA HMA, 3, 76, Intermediate, 19.0 mm, on  
1045 lb/syd QC/QA HMA, 3, 64, Base, 19.0 mm (3 lifts), on  
Subgrade Treatment, Type IBC

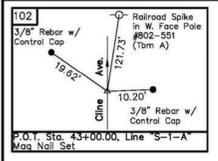
- PCCP ALTERNATE**
- (A) 8.0 in. PCCP (Colored)  
(17 ft maximum joint spacing,  
1 in. diameter dowel bars), on  
12 in. Compacted Aggregate No. 53  
Subgrade Treatment, Type IBC
  - (A1) 6 in. PCCP (Colored), on  
14 in. Dense Graded Subbase, on  
Subgrade Treatment Type IBC
  - (D) QC/QA PCCP, 10 in.  
(17 ft joint spacing for roundabout and  
16 ft joint spacing for approaches,  
1.5 in. bars at 12 in. spacing), on  
6 in. Dense Graded Subbase, on  
Subgrade Treatment, Type IBC

ALL TOPOGRAPHY ON THIS SHEET DESCRIBED FROM LINE 'PR\_S-1-A' UNLESS OTHERWISE NOTED. ALL R/W ON THIS SHEET DESCRIBED FROM LINE 'S-1-A' UNLESS OTHERWISE NOTED.



Note to Reviewer:  
Topo Notes have been  
Requested from the Surveyor

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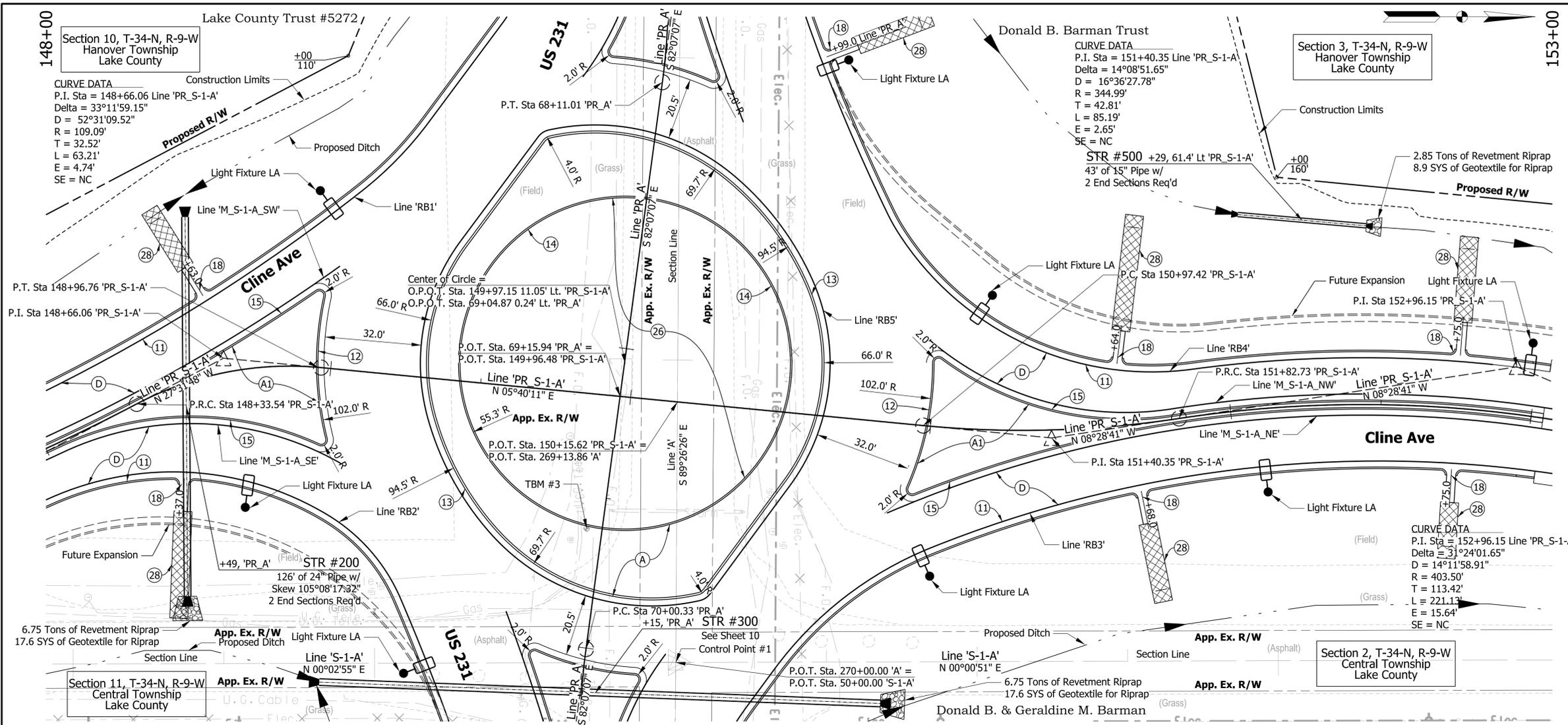
**PRELIMINARY**  
NOT FOR CONSTRUCTION  
DATE: 11/18/2021

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CHECKED: CLW	CHECKED: LRD	

**INDIANA**  
**DEPARTMENT OF TRANSPORTATION**

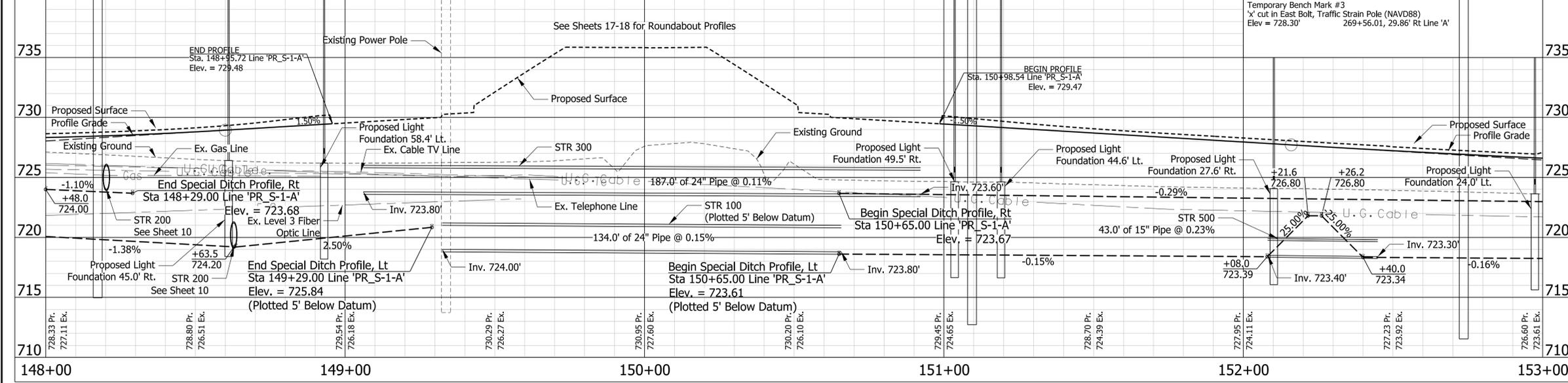
US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
PLAN AND PROFILE LINE 'PR\_S-1-A'

HORIZONTAL SCALE	FILE
1" = 20'	
VERTICAL SCALE	DESIGNATION
1" = 5'	1700022
SURVEY BOOK	SHEETS
	17 of 46
CONTRACT	PROJECT
R-42251	1700022

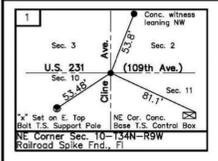


- LEGEND**
- (C) HMA for Approaches, Type B, Consisting of: 165 lb/syd HMA Surface, on 275 lb/syd HMA Intermediate, on 6 in. Compacted Aggregate No. 53, on Subgrade Treatment Type II
  - (C1) 6 in. Compacted Aggregate No. 53
  - (M) Asphalt Milling, Transition, 2.0 in. Maximum
  - (M1) Milling, Profile
  - (R) 220 lb/syd QC/QA HMA, 3, 76, Surface 9.5 mm
  - (R1) 220 lb/syd QC/QA HMA, 3, 76, Surface 9.5 mm, on 275 lb/syd QC/QA HMA, 3, 76, Intermediate 19.0 mm
  - (11) Curb and Gutter, Concrete
  - (12) Curb and Gutter, B, Concrete
  - (13) Curb and Gutter, B, Concrete, Modified (Inverted) (3")
  - (14) Curb, Integral, Concrete
  - (15) Curb and Gutter, B, Concrete, Modified (Inverted)
  - (18) Curb and Gutter, Turn Out Concrete
  - (26) Sodding on 4" of Topsoil
  - (28) Turf Reinforcement Mat
- HMA ALTERNATE**
- (A) 8.0 in. PCCP (Colored) (17 ft maximum joint spacing, 1 in. diameter dowel bars), on 10 in. Compacted Aggregate No. 53 Subgrade Treatment, Type IBC
  - (A1) 6 in. PCCP (Colored), on 12 in. Dense Graded Subbase, on Subgrade Treatment Type IBC
  - (D) 220 lb/syd QC/QA HMA, 3, 76, Surface, 9.5 mm, on 275 lb/syd QC/QA HMA, 3, 76, Intermediate, 19.0 mm, on 1045 lb/syd QC/QA HMA, 3, 64, Base, 19.0 mm (3 lifts), on Subgrade Treatment, Type IBC
- PCCP ALTERNATE**
- (A) 8.0 in. PCCP (Colored) (17 ft maximum joint spacing, 1 in. diameter dowel bars), on 12 in. Compacted Aggregate No. 53 Subgrade Treatment, Type IBC
  - (A1) 6 in. PCCP (Colored), on 14 in. Dense Graded Subbase, on Subgrade Treatment Type IBC
  - (D) QC/QA PCCP, 10 in. (17 ft joint spacing for roundabout and 16 ft joint spacing for approaches, 1.5 in. bars at 12 in. spacing), on 6 in. Dense Graded Subbase, on Subgrade Treatment, Type IBC

ALL TOPOGRAPHY ON THIS SHEET DESCRIBED FROM LINE 'PR\_S-1-A' UNLESS OTHERWISE NOTED. ALL R/W ON THIS SHEET DESCRIBED FROM LINE 'S-1-A' UNLESS OTHERWISE NOTED.



Note to Reviewer: Topo Notes have been Requested from the Surveyor



**PRELIMINARY**  
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DATE: 11/18/2021

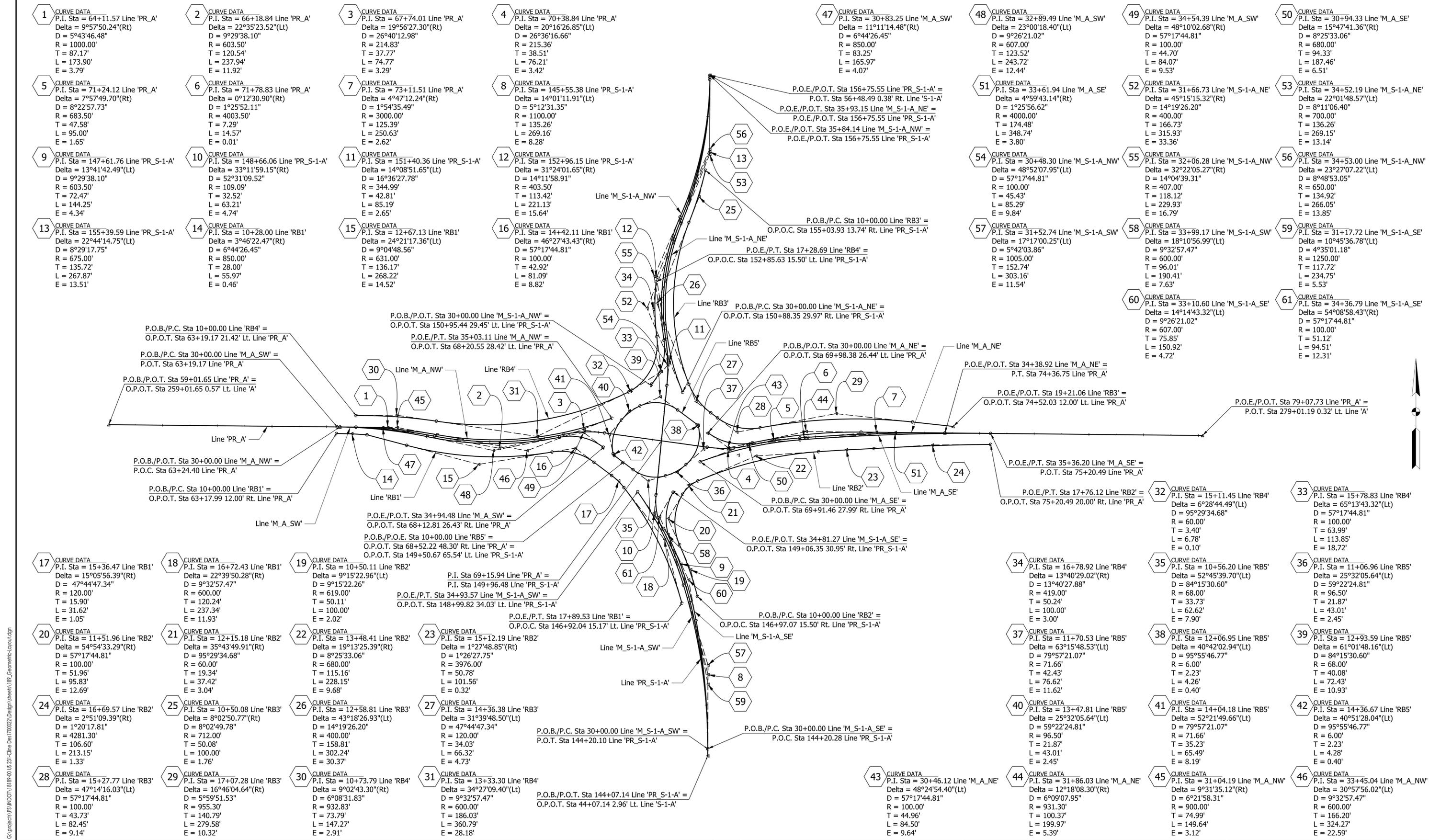
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: PFR	DRAWN: PFR	
CHECKED: CLW	CHECKED: LRD	

**INDIANA DEPARTMENT OF TRANSPORTATION**

US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
PLAN AND PROFILE LINE 'PR\_S-1-A'

HORIZONTAL SCALE	FILE
1" = 20'	
VERTICAL SCALE	DESIGNATION
1" = 5'	1700022
SURVEY BOOK	SHEETS
	18 of 46
CONTRACT	PROJECT
R-42251	1700022





**1** CURVE DATA  
P.I. Sta = 64+11.57 Line 'PR\_A'  
Delta = 9°57'50.24"(Rt)  
D = 5°43'46.48"  
R = 1000.00'  
T = 87.17'  
L = 173.90'  
E = 3.79'

**2** CURVE DATA  
P.I. Sta = 66+18.84 Line 'PR\_A'  
Delta = 22°35'23.52"(Lt)  
D = 9°29'38.10"  
R = 603.50'  
T = 120.54'  
L = 237.94'  
E = 11.92'

**3** CURVE DATA  
P.I. Sta = 67+74.01 Line 'PR\_A'  
Delta = 19°56'27.30"(Rt)  
D = 9°29'38.10"  
R = 214.83'  
T = 37.77'  
L = 74.77'  
E = 3.29'

**4** CURVE DATA  
P.I. Sta = 70+38.84 Line 'PR\_A'  
Delta = 20°16'26.85"(Lt)  
D = 26°36'16.66"  
R = 215.36'  
T = 38.51'  
L = 76.21'  
E = 3.42'

**47** CURVE DATA  
P.I. Sta = 30+83.25 Line 'M\_A\_SW'  
Delta = 11°11'14.48"(Rt)  
D = 6°44'26.45"  
R = 850.00'  
T = 83.25'  
L = 165.97'  
E = 4.07'

**48** CURVE DATA  
P.I. Sta = 32+89.49 Line 'M\_A\_SW'  
Delta = 23°00'18.40"(Lt)  
D = 9°26'21.02"  
R = 607.00'  
T = 123.52'  
L = 243.72'  
E = 12.44'

**49** CURVE DATA  
P.I. Sta = 34+54.39 Line 'M\_A\_SW'  
Delta = 48°10'02.68"(Rt)  
D = 57°17'44.81"  
R = 100.00'  
T = 44.70'  
L = 84.07'  
E = 9.53'

**50** CURVE DATA  
P.I. Sta = 30+94.33 Line 'M\_A\_SE'  
Delta = 15°47'41.36"(Rt)  
D = 8°25'33.06"  
R = 680.00'  
T = 94.33'  
L = 187.46'  
E = 6.51'

**5** CURVE DATA  
P.I. Sta = 71+24.12 Line 'PR\_A'  
Delta = 7°57'49.70"(Rt)  
D = 8°22'57.73"  
R = 683.50'  
T = 47.58'  
L = 95.00'  
E = 1.65'

**6** CURVE DATA  
P.I. Sta = 71+78.83 Line 'PR\_A'  
Delta = 0°12'30.90"(Rt)  
D = 1°25'52.11"  
R = 4003.50'  
T = 7.29'  
L = 14.57'  
E = 0.01'

**7** CURVE DATA  
P.I. Sta = 73+11.51 Line 'PR\_A'  
Delta = 4°47'12.24"(Rt)  
D = 1°54'35.49"  
R = 3000.00'  
T = 125.39'  
L = 250.63'  
E = 2.62'

**8** CURVE DATA  
P.I. Sta = 145+55.38 Line 'PR\_S-1-A'  
Delta = 14°01'11.91"(Lt)  
D = 5°12'31.35"  
R = 1100.00'  
T = 135.26'  
L = 269.16'  
E = 8.28'

**51** CURVE DATA  
P.I. Sta = 33+61.94 Line 'M\_A\_SE'  
Delta = 4°59'43.14"(Rt)  
D = 1°25'56.62"  
R = 4000.00'  
T = 174.48'  
L = 348.74'  
E = 3.80'

**52** CURVE DATA  
P.I. Sta = 31+66.73 Line 'M\_S-1-A\_NE'  
Delta = 45°15'15.32"(Rt)  
D = 14°19'26.20"  
R = 400.00'  
T = 136.26'  
L = 315.93'  
E = 13.14'

**53** CURVE DATA  
P.I. Sta = 34+52.19 Line 'M\_S-1-A\_NE'  
Delta = 22°01'48.57"(Lt)  
D = 8°11'06.40"  
R = 700.00'  
T = 136.26'  
L = 269.15'  
E = 13.14'

**54** CURVE DATA  
P.I. Sta = 30+48.30 Line 'M\_S-1-A\_NW'  
Delta = 48°52'07.95"(Lt)  
D = 57°17'44.81"  
R = 100.00'  
T = 45.43'  
L = 85.29'  
E = 9.84'

**9** CURVE DATA  
P.I. Sta = 147+61.76 Line 'PR\_S-1-A'  
Delta = 33°41'42.49"(Lt)  
D = 9°29'38.10"  
R = 603.50'  
T = 72.47'  
L = 144.25'  
E = 4.34'

**10** CURVE DATA  
P.I. Sta = 148+66.06 Line 'PR\_S-1-A'  
Delta = 33°11'59.15"(Rt)  
D = 52°31'09.52"  
R = 109.09'  
T = 32.52'  
L = 63.21'  
E = 4.74'

**11** CURVE DATA  
P.I. Sta = 151+40.36 Line 'PR\_S-1-A'  
Delta = 14°08'51.65"(Lt)  
D = 16°36'27.78"  
R = 344.99'  
T = 42.81'  
L = 85.19'  
E = 2.65'

**12** CURVE DATA  
P.I. Sta = 152+96.15 Line 'PR\_S-1-A'  
Delta = 14°11'58.91"  
D = 14°11'58.91"  
R = 403.50'  
T = 113.42'  
L = 221.13'  
E = 15.64'

**55** CURVE DATA  
P.I. Sta = 31+52.74 Line 'M\_S-1-A\_SW'  
Delta = 17°17'00.25"(Lt)  
D = 5°42'03.86"  
R = 1005.00'  
T = 152.74'  
L = 303.16'  
E = 11.54'

**56** CURVE DATA  
P.I. Sta = 32+06.28 Line 'M\_S-1-A\_NW'  
Delta = 32°22'05.27"(Rt)  
D = 14°04'39.31"  
R = 407.00'  
T = 118.12'  
L = 229.93'  
E = 16.79'

**57** CURVE DATA  
P.I. Sta = 33+99.17 Line 'M\_S-1-A\_SW'  
Delta = 18°10'56.99"(Lt)  
D = 9°32'57.47"  
R = 600.00'  
T = 96.01'  
L = 190.41'  
E = 7.63'

**58** CURVE DATA  
P.I. Sta = 31+17.72 Line 'M\_S-1-A\_SE'  
Delta = 10°45'36.78"(Lt)  
D = 4°35'01.18"  
R = 1250.00'  
T = 117.72'  
L = 234.75'  
E = 5.53'

**13** CURVE DATA  
P.I. Sta = 155+39.59 Line 'PR\_S-1-A'  
Delta = 22°44'14.75"(Lt)  
D = 8°29'17.75"  
R = 675.00'  
T = 135.72'  
L = 267.87'  
E = 13.51'

**14** CURVE DATA  
P.I. Sta = 10+28.00 Line 'RB1'  
Delta = 3°46'22.47"(Rt)  
D = 6°44'26.45"  
R = 850.00'  
T = 28.00'  
L = 55.97'  
E = 0.46'

**15** CURVE DATA  
P.I. Sta = 12+67.13 Line 'RB1'  
Delta = 24°21'17.36"(Lt)  
D = 9°04'48.56"  
R = 631.00'  
T = 136.17'  
L = 268.22'  
E = 14.52'

**16** CURVE DATA  
P.I. Sta = 14+42.11 Line 'RB1'  
Delta = 46°27'43.43"(Rt)  
D = 57°17'44.81"  
R = 100.00'  
T = 42.92'  
L = 81.09'  
E = 8.82'

**59** CURVE DATA  
P.I. Sta = 34+36.79 Line 'M\_S-1-A\_SE'  
Delta = 54°08'58.43"(Rt)  
D = 57°17'44.81"  
R = 100.00'  
T = 75.85'  
L = 150.92'  
E = 4.72'

**60** CURVE DATA  
P.I. Sta = 33+10.60 Line 'M\_S-1-A\_SE'  
Delta = 14°14'43.32"(Lt)  
D = 9°26'21.02"  
R = 607.00'  
T = 75.85'  
L = 150.92'  
E = 4.72'

**61** CURVE DATA  
P.I. Sta = 34+36.79 Line 'M\_S-1-A\_SE'  
Delta = 54°08'58.43"(Rt)  
D = 57°17'44.81"  
R = 100.00'  
T = 75.85'  
L = 150.92'  
E = 4.72'

**61** CURVE DATA  
P.I. Sta = 34+36.79 Line 'M\_S-1-A\_SE'  
Delta = 54°08'58.43"(Rt)  
D = 57°17'44.81"  
R = 100.00'  
T = 75.85'  
L = 150.92'  
E = 4.72'

P.O.B./P.O.T. Sta 10+00.00 Line 'RB4' =  
O.P.O.T. Sta 63+19.17 21.42' Lt. Line 'PR\_A'

P.O.B./P.O.T. Sta 30+00.00 Line 'M\_A\_SW' =  
P.O.T. Sta 63+19.17 Line 'PR\_A'

P.O.B./P.O.T. Sta 30+00.00 Line 'M\_S-1-A\_NW' =  
O.P.O.T. Sta 150+95.44 29.45' Lt. Line 'PR\_S-1-A'

P.O.E./P.T. Sta 35+03.11 Line 'M\_A\_NW' =  
O.P.O.T. Sta 68+20.55 28.42' Lt. Line 'PR\_A'

P.O.B./P.C. Sta 10+00.00 Line 'RB3' =  
O.P.O.C. Sta 155+03.93 13.74' Rt. Line 'PR\_S-1-A'

P.O.E./P.T. Sta 17+28.69 Line 'RB4' =  
O.P.O.C. Sta 152+85.63 15.50' Lt. Line 'PR\_S-1-A'

P.O.B./P.C. Sta 30+00.00 Line 'M\_S-1-A\_NE' =  
O.P.O.T. Sta 150+88.35 29.97' Rt. Line 'PR\_S-1-A'

P.O.E./P.O.T. Sta 34+38.92 Line 'M\_A\_NE' =  
P.T. Sta 74+36.75 Line 'PR\_A'

P.O.B./P.O.T. Sta 59+01.65 Line 'PR\_A' =  
O.P.O.T. Sta 259+01.65 0.57' Lt. Line 'A'

P.O.B./P.O.T. Sta 30+00.00 Line 'M\_A\_NW' =  
P.O.C. Sta 63+24.40 Line 'PR\_A'

P.O.B./P.C. Sta 10+00.00 Line 'RB1' =  
O.P.O.T. Sta 63+17.99 12.00' Rt. Line 'PR\_A'

P.O.E./P.O.T. Sta 34+94.48 Line 'M\_A\_SW' =  
O.P.O.T. Sta 68+12.81 26.43' Rt. Line 'PR\_A'

P.O.B./P.O.E. Sta 10+00.00 Line 'RB5' =  
O.P.O.T. Sta 68+52.22 48.30' Rt. Line 'PR\_A'

P.O.E./P.O.T. Sta 34+81.27 Line 'M\_S-1-A\_SE' =  
O.P.O.T. Sta 149+06.35 30.95' Rt. Line 'PR\_S-1-A'

P.O.E./P.T. Sta 35+36.20 Line 'M\_A\_SE' =  
P.O.T. Sta 75+20.49 Line 'PR\_A'

P.O.E./P.O.T. Sta 19+21.06 Line 'RB3' =  
O.P.O.T. Sta 74+52.03 12.00' Lt. Line 'PR\_A'

P.O.B./P.O.T. Sta 30+00.00 Line 'M\_A\_SW' =  
P.O.C. Sta 63+24.40 Line 'PR\_A'

P.O.E./P.O.T. Sta 34+94.48 Line 'M\_A\_SW' =  
O.P.O.T. Sta 68+12.81 26.43' Rt. Line 'PR\_A'

P.O.B./P.O.E. Sta 10+00.00 Line 'RB5' =  
O.P.O.T. Sta 68+52.22 48.30' Rt. Line 'PR\_A'

P.O.E./P.T. Sta 17+89.53 Line 'RB1' =  
O.P.O.C. Sta 146+92.04 15.17' Lt. Line 'PR\_S-1-A'

P.O.B./P.C. Sta 10+00.00 Line 'RB2' =  
O.P.O.C. Sta 146+97.07 15.50' Rt. Line 'PR\_S-1-A'

P.O.E./P.T. Sta 17+76.12 Line 'RB2' =  
O.P.O.T. Sta 75+20.49 20.00' Rt. Line 'PR\_A'

P.O.E./P.T. Sta 15+11.45 Line 'RB4' =  
Delta = 6°28'44.49"(Lt)  
D = 95°29'34.68"  
R = 600.00'  
T = 3.40'  
L = 6.78'  
E = 0.10'

P.O.E./P.O.T. Sta 79+07.73 Line 'PR\_A' =  
P.O.T. Sta 279+01.19 0.32' Lt. Line 'A'

**17** CURVE DATA  
P.I. Sta = 15+36.47 Line 'RB1'  
Delta = 15°05'56.39"(Rt)  
D = 47°44'47.34"  
R = 120.00'  
T = 15.90'  
L = 31.62'  
E = 1.05'

**18** CURVE DATA  
P.I. Sta = 16+72.43 Line 'RB1'  
Delta = 22°39'50.28"(Rt)  
D = 9°32'57.47"  
R = 600.00'  
T = 120.24'  
L = 237.34'  
E = 11.93'

**19** CURVE DATA  
P.I. Sta = 10+50.11 Line 'RB2'  
Delta = 9°15'22.96"(Lt)  
D = 9°15'22.26"  
R = 619.00'  
T = 50.11'  
L = 100.00'  
E = 2.02'

**20** CURVE DATA  
P.I. Sta = 16+78.92 Line 'RB4'  
Delta = 13°40'29.02"(Rt)  
D = 84°15'30.60"  
R = 419.00'  
T = 50.24'  
L = 100.00'  
E = 3.00'

**21** CURVE DATA  
P.I. Sta = 10+56.20 Line 'RB5'  
Delta = 52°45'39.70"(Lt)  
D = 13°40'27.88"  
R = 68.00'  
T = 33.73'  
L = 62.62'  
E = 7.90'

**22** CURVE DATA  
P.I. Sta = 11+70.53 Line 'RB5'  
Delta = 63°15'48.53"(Lt)  
D = 79°57'21.07"  
R = 71.66'  
T = 42.43'  
L = 76.62'  
E = 11.62'

**23** CURVE DATA  
P.I. Sta = 12+06.95 Line 'RB5'  
Delta = 40°42'02.94"(Lt)  
D = 95°55'46.77"  
R = 6.00'  
T = 2.23'  
L = 4.26'  
E = 0.40'

**24** CURVE DATA  
P.I. Sta = 11+06.96 Line 'RB5'  
Delta = 25°32'05.64"(Lt)  
D = 59°22'24.81"  
R = 96.50'  
T = 21.87'  
L = 43.01'  
E = 2.45'

**24** CURVE DATA  
P.I. Sta = 16+69.57 Line 'RB2'  
Delta = 2°51'09.39"(Rt)  
D = 1°20'17.81"  
R = 4281.30'  
T = 106.60'  
L = 213.15'  
E = 1.33'

**25** CURVE DATA  
P.I. Sta = 10+50.08 Line 'RB3'  
Delta = 8°02'50.77"(Rt)  
D = 8°02'49.78"  
R = 712.00'  
T = 50.08'  
L = 100.00'  
E = 1.76'

**26** CURVE DATA  
P.I. Sta = 12+58.81 Line 'RB3'  
Delta = 43°18'26.93"(Lt)  
D = 14°19'26.20"  
R = 400.00'  
T = 158.81'  
L = 302.24'  
E = 30.37'

**27** CURVE DATA  
P.I. Sta = 14+36.38 Line 'RB3'  
Delta = 31°39'48.50"(Lt)  
D = 47°44'47.34"  
R = 120.00'  
T = 34.03'  
L = 66.32'  
E = 4.73'

**28** CURVE DATA  
P.I. Sta = 15+27.77 Line 'RB3'  
Delta = 47°14'16.03"(Lt)  
D = 57°17'44.81"  
R = 100.00'  
T = 43.73'  
L = 82.45'  
E = 9.14'

**29** CURVE DATA  
P.I. Sta = 17+07.28 Line 'RB3'  
Delta = 16°46'04.64"(Rt)  
D = 5°59'51.53"  
R = 955.30'  
T = 140.79'  
L = 279.58'  
E = 10.32'

**30** CURVE DATA  
P.I. Sta = 10+73.79 Line 'RB4'  
Delta = 9°02'43.30"(Rt)  
D = 6°08'31.83"  
R = 932.83'  
T = 73.79'  
L = 147.27'  
E = 2.91'

**31** CURVE DATA  
P.I. Sta = 13+33.30 Line 'RB4'  
Delta = 34°27'09.40"(Lt)  
D = 9°32'57.47"  
R = 600.00'  
T = 186.03'  
L = 360.79'  
E = 28.18'

**28** CURVE DATA  
P.I. Sta = 15+27.77 Line 'RB3'  
Delta = 47°14'16.03"(Lt)  
D = 57°17'44.81"  
R = 100.00'  
T = 43.73'  
L = 82.45'  
E = 9.14'

**29** CURVE DATA  
P.I. Sta = 17+07.28 Line 'RB3'  
Delta = 16°46'04.64"(Rt)  
D = 5°59'51.53"  
R = 955.30'  
T = 140.79'  
L = 279.58'  
E = 10.32'

**30** CURVE DATA  
P.I. Sta = 10+73.79 Line 'RB4'  
Delta = 9°02'43.30"(Rt)  
D = 6°08'31.83"  
R = 932.83'  
T = 73.79'  
L = 147.27'  
E = 2.91'

**31** CURVE DATA  
P.I. Sta = 13+33.30 Line 'RB4'  
Delta = 34°27'09.40"(Lt)  
D = 9°32'57.47"  
R = 600.00'  
T = 186.03'  
L = 360.79'  
E = 28.18'

**43** CURVE DATA  
P.I. Sta = 30+46.12 Line 'M\_A\_NE'  
Delta = 48°24'54.40"(Lt)  
D = 57°17'44.81"  
R = 100.00'  
T = 44.96'  
L = 84.50'  
E = 9.64'

**44** CURVE DATA  
P.I. Sta = 31+86.03 Line 'M\_A\_NE'  
Delta = 12°18'08.30"(Rt)  
D = 6°09'07.95"  
R = 931.30'  
T = 100.37'  
L = 199.97'  
E = 5.39'

**45** CURVE DATA  
P.I. Sta = 31+04.19 Line 'M\_A\_NW'  
Delta = 9°31'35.12"(Rt)  
D = 6°21'58.31"  
R = 900.00'  
T = 166.20'  
L = 149.64'  
E = 3.12'

**46** CURVE DATA  
P.I. Sta = 33+45.04 Line 'M\_A\_NW'  
Delta = 30°57'56.02"(Lt)  
D = 9°32'57.47"  
R = 600.00'  
T = 2.23'  
L = 4.28'  
E = 0.40'

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DATE: 11/18/2021

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: PFR	DRAWN: PFR	
CHECKED: CLW	CHECKED: LRD	

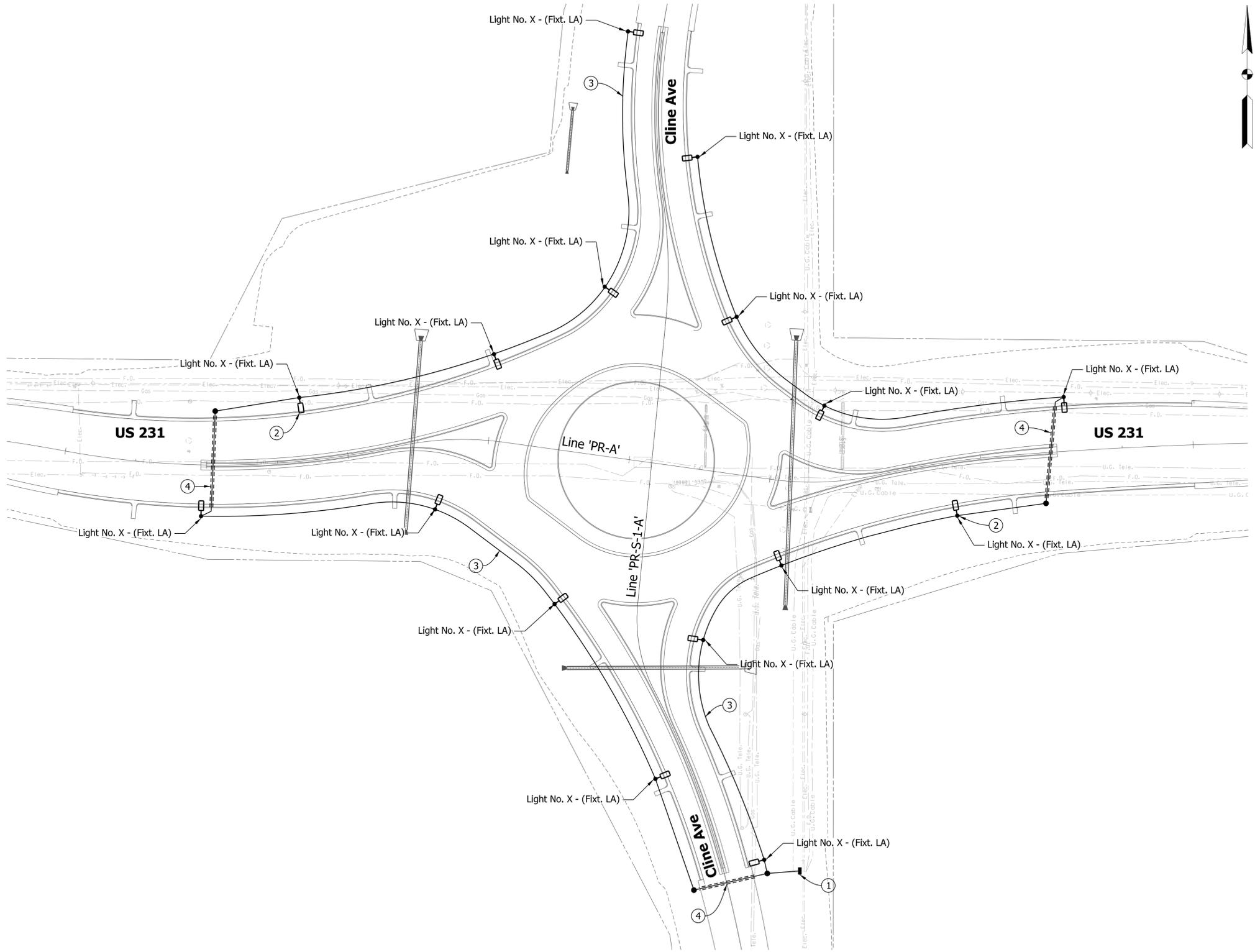
**INDIANA**  
**DEPARTMENT OF TRANSPORTATION**  
US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
GEOMETRIC LAYOUT

HORIZONTAL SCALE	FILE
1" = 80'	
VERTICAL SCALE	DESIGNATION
N/A	1700022
SURVEY BOOK	SHEETS
	20 of 46
CONTRACT	PROJECT
R-42251	1700022





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**KEYNOTES**

- ① Electric Service Point Type I, 120/240V. Mount on Existing Utility Pole. Refer to INDOT Light Service Point Standard Drawings E807-LTSP.
- ② Roadway Light Fixture (Typ).
- ③ Cable Duct Wire #4 Cu in Plastic Duct 4-1/C (Typ).
- ④ Provide 3" Galvanized Rigid Conduit Sleeve Under Road for Cable Duct.

**LEGEND**

- ◻ LED Luminaire and Pole
- Service Point Type I
- Cable Duct Wire #4 Cu in Plastic Duct 4-1/C
- ≡≡≡ 3" Galvanized Rigid Conduit
- Handhole

**LUMINAIRE STATISTICS**

AVERAGE	-	FC
MINIMUM	-	FC
AVG/MIN	-	-

Note to Reviewer:  
 - Preliminary Lighting Design provided.  
 - Final Lighting Design will be provided with the next submission.



**PRELIMINARY**  
 NOT FOR CONSTRUCTION  
 DATE: 11/18/2021

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: PFR	DRAWN: PFR	
CHECKED: CLW	CHECKED: LRD	

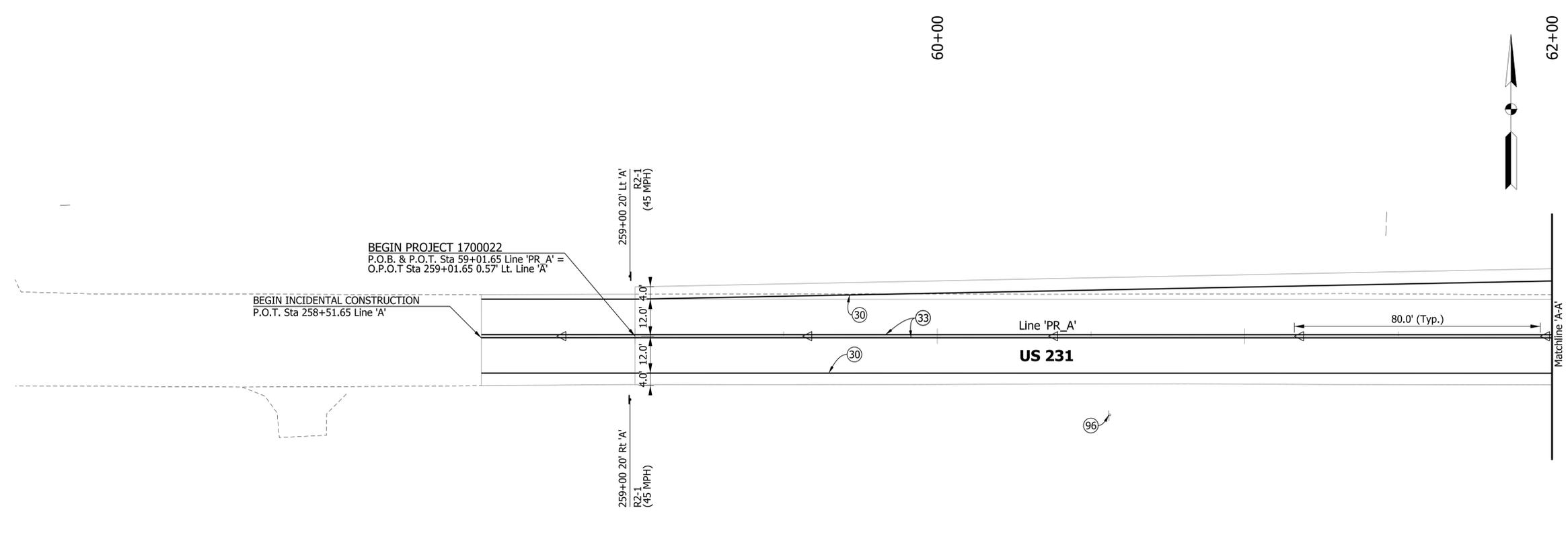
**INDIANA**  
 DEPARTMENT OF TRANSPORTATION

US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
 LIGHTING PLAN

HORIZONTAL SCALE	FILE
1" = 40'	
VERTICAL SCALE	DESIGNATION
N/A	1700022
SURVEY BOOK	SHEETS
	23 of 46
CONTRACT	PROJECT
R-42251	1700022



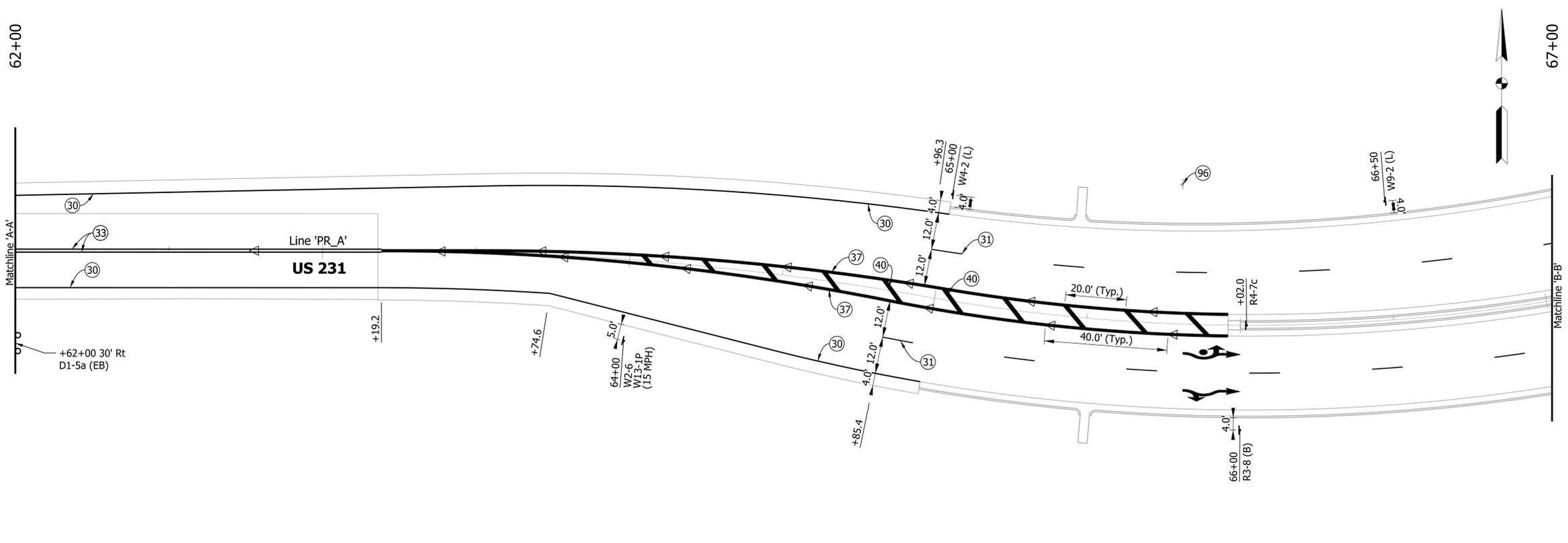
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**LEGEND**

- ③① Line, Multi-Component, Solid, White, 4 in.
- ③② Line, Multi-Component, Broken, White, 4 in.
- ③③ Line, Multi-Component, Dotted, White, 4 in.
- ③④ Line, Multi-Component, Solid, Yellow, 4 in.
- ③⑤ Line, Multi-Component, Dotted, White, 8 in.
- ③⑥ Line, Multi-Component, Solid, Yellow, 8 in.
- ④⑦ Transverse Marking, Thermoplastic, Crosshatch Line, Yellow, 12 in.
- ④⑧ Pavement Message Marking, Thermoplastic, Lane Indication Arrow
- ④⑨ Transverse Marking, Thermoplastic, Yield Line, White, 24 in.
- ④⑩ Sign, Remove
- ④⑪ Two-Way Yellow R.P.M.

Sign	Description	Size
D1-1d	Destination Sign (Cline Ave.)	*
D1-5a	Directional Panel Sign	*
M1-4	U.S. Route Sign (231)	30 x 24
M3-1	Cardinal Direction (North)	24 x 12
M3-3	Cardinal Direction (South)	24 x 12
M6-2	Directional Arrow (Diagonal)	21 x 15
R1-2	Yield	36 x 36 x 36
R2-1	Speed Limit	24 x 30
R3-8 (B)	Intersection Lane Control	30 x 30
R4-7	Keep Right	24 x 30
R4-7c	Narrow Keep Right	18 x 30
R6-1	One Way (Right)	36 x 12
R6-4a	Roundabout Directional (3 Chevrons)	48 x 24
W2-6	Roundabout Warning	30 x 30
W4-2	Lane Ends	36 x 36
W9-2	Lane Ends Merge Left	36 x 36
W13-1P	Advisory Speed Plaque	18 x 18



**PRELIMINARY**  
 NOT FOR CONSTRUCTION  
 DATE: 1/18/2021

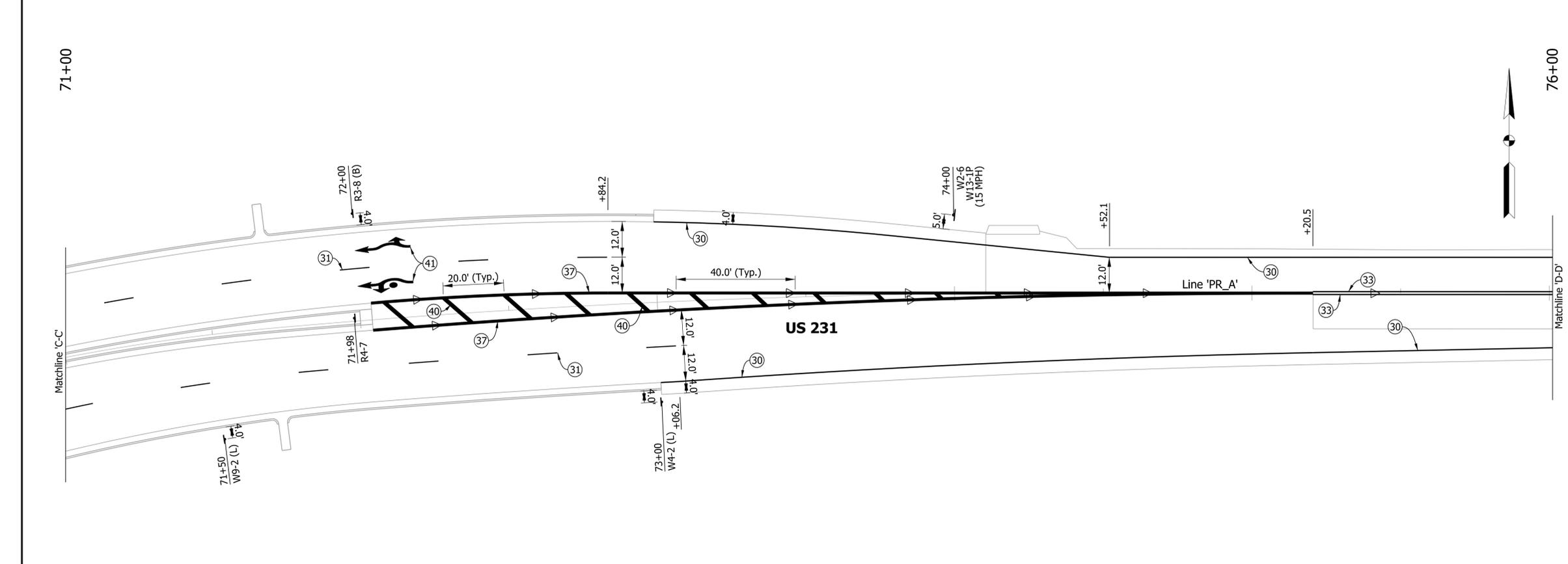
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: PFR	DRAWN: PFR	
CHECKED: CLW	CHECKED: LRD	

**INDIANA DEPARTMENT OF TRANSPORTATION**

US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
 PAVEMENT MARKINGS AND SIGNAGE LINE 'PR\_A'

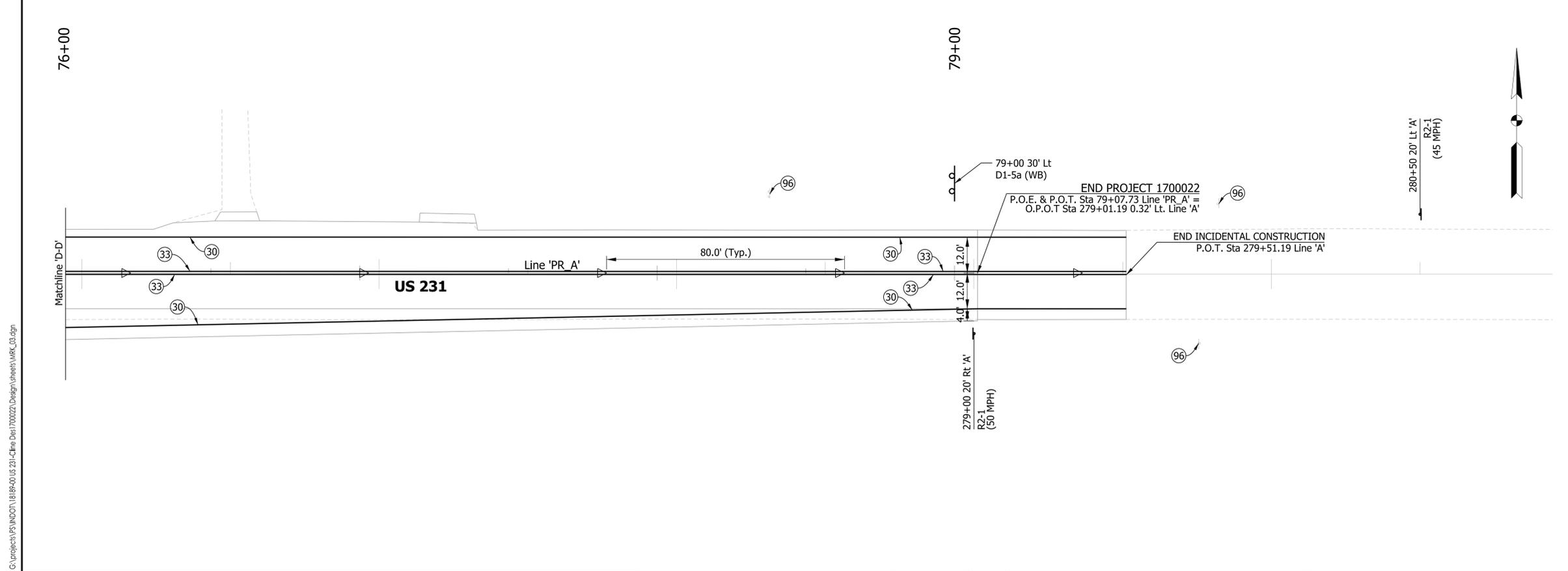
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1" = 20'	
VERTICAL SCALE	DESIGNATION
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SURVEY BOOK	SHEETS
	25 of 46
CONTRACT	PROJECT
R-42251	1700022





- LEGEND**
- ③① Line, Multi-Component, Solid, White, 4 in.
  - ③② Line, Multi-Component, Broken, White, 4 in.
  - ③③ Line, Multi-Component, Dotted, White, 4 in.
  - ③④ Line, Multi-Component, Solid, Yellow, 4 in.
  - ③⑤ Line, Multi-Component, Dotted, White, 8 in.
  - ③⑥ Line, Multi-Component, Solid, Yellow, 8 in.
  - ④⑦ Transverse Marking, Thermoplastic, Crosshatch Line, Yellow, 12 in.
  - ④⑧ Pavement Message Marking, Thermoplastic, Lane Indication Arrow
  - ④⑨ Transverse Marking, Thermoplastic, Yield Line, White, 24 in.
  - ④⑩ Sign, Remove
  - ④⑪ Two-Way Yellow R.P.M.

Sign	Description	Size
D1-1d	Destination Sign (Cline Ave.)	*
D1-5a	Directional Panel Sign	*
M1-4	U.S. Route Sign (231)	30 x 24
M3-1	Cardinal Direction (North)	24 x 12
M3-3	Cardinal Direction (South)	24 x 12
M6-2	Directional Arrow (Diagonal)	21 x 15
R1-2	Yield	36 x 36 x 36
R2-1	Speed Limit	24 x 30
R3-8 (B)	Intersection Lane Control	30 x 30
R4-7	Keep Right	24 x 30
R4-7c	Narrow Keep Right	18 x 30
R6-1	One Way (Right)	36 x 12
R6-4a	Roundabout Directional (3 Chevrons)	48 x 24
W2-6	Roundabout Warning	30 x 30
W4-2	Lane Ends	36 x 36
W9-2	Lane Ends Merge Left	36 x 36
W13-1P	Advisory Speed Plaque	18 x 18



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**PRELIMINARY**  
NOT FOR CONSTRUCTION  
DATE: 1/18/2021

RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: PFR	DRAWN: PFR	
CHECKED: CLW	CHECKED: LRD	

**INDIANA**  
**DEPARTMENT OF TRANSPORTATION**

US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
PAVEMENT MARKINGS AND SIGNAGE LINE 'PR\_A'

HORIZONTAL SCALE	FILE
1" = 20'	
VERTICAL SCALE	DESIGNATION
N/A	1700022
SURVEY BOOK	SHEETS
	27 of 46
CONTRACT	PROJECT
R-42251	1700022



PAVEMENT QUANTITIES AND APPROACH TABLE

LOCATION	DESCRIPTION (APPROACH TYPE OR CLASS)	SKEW	WIDTH	LENGTH	RADIUS FRONT	RADIUS BACK	GRADE		EXCAVATION		CLEAR ZONE AT DRIVE	HMA FOR APPROACHES		ASPHALT MILLING	HMA FOR ROADS			ASPHALT FOR TACK COAT	JOINT ADHESIVE SURFACE	JOINT ADHESIVE INTERMEDIATE	LIQUID ASPHALT SEALANT	PCCP		COMPACTED AGGREGATE NO. 53	SUBGRADE TREATMENT TYPE II	SUBGRADE TREATMENT TYPE IC	REMARKS
							1	2	CUT	FILL		LBS PER SYD	DEPTH		LBS PER SYD	DEPTH	DEPTH					DEPTH					
							%	%	CYS	CYS													6"				
							0°0'0"	LFT	LFT	LFT		LFT															
<b>Line 'PR_A'</b>																											
258+51.65 'A' to 59+01.65																											
59+01.65 to 65+00.00																											
65+00.00 to 73+00.00																											
73+00.00 to 79+07.73																											
79+07.73 to 279+51.19 'A'																											
<b>Line 'PR_S-1-A'</b>																											
43+57.13 'S-1-A' to 144+07.15																											
144+07.15 to 146+95.90																											
146+95.90 to 149+04.00																											
150+90.00 to 153+04.00																											
153+04.00 to 156+75.55																											
156+75.55 to 56+98.49 'S-1-A'																											
<b>Drives</b>																											
74+20.2 'PR_A' LT Class II 12.0 28.5 25.0 15.0 46.2 46.2																											
76+58.4 'PR_A' LT Class II 12.0 31.7 25.0 15.0 51.7 51.7																											
77+30.0 'PR_A' LT Class V 24.0 33.7 25.0 25.0																											
77+33.0 'PR_A' RT Class V 79°50'33" 27.0 31.8 25.0 25.0																											
<b>CONTRACT TOTALS (SYS OR LFT)</b>																											
<b>CONTRACT TOTALS (CYS OR TONS)</b>																											

PAVEMENT MARKINGS SUMMARY OF QUANTITIES

LOCATION	MULTI-COMPONENT						GROOVING FOR PAVEMENT MARKINGS	TRANSVERSE MARKING THERMOPLASTIC YIELD LINE		TRANSVERSE MARKING THERMOPLASTIC CROSSHATCH LINE		PAVEMENT MESSAGE THERMOPLASTIC LANE INDICATION ARROW	SNOWPLOWABLE RAISED PAVEMENT MARKER, TWO-WAY YELLOW
	SOLID WHITE 4 in	BROKEN WHITE 4 in	DOTTED WHITE 4 in	DOTTED WHITE 8 in	SOLID YELLOW 4 in	SOLID YELLOW 8 in		SOLID WHITE 12 in	SOLID WHITE 24 in	SOLID YELLOW 12 in	SOLID YELLOW 24 in		
	LFT	LFT	LFT	LFT	LFT	LFT		LFT	LFT	LFT	LFT		
<b>Line 'PR_A'</b>													
Sta. 258+51.65 'A' to 63+19.17													
Sta. 63+19.17 to 65+96.03													
Sta. 65+96.03 to 72+03.97													
Sta. 72+03.97 to 75+20.49													
Sta. 75+20.49 to 279+51.19 'A'													
<b>Line 'PR_S-1-A'</b>													
Sta. 43+57.14 'S-1-A' to 144+20.25													
Sta. 144+20.25 to 146+96.02													
Sta. 146+96.02 to 149+30.33													
Sta. 150+79.20 to 153+04.03													
Sta. 153+04.03 to 156+75.55													
Sta. 156+75.55 to 56+98.49 'S-1-A'													
<b>Totals</b>													
<b>Totals (LFT or EA)</b>													

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**PRELIMINARY**  
NOT FOR CONSTRUCTION  
DATE: 1/18/2021

RECOMMENDED FOR APPROVAL \_\_\_\_\_  
DESIGN ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
DESIGNED: PFR DRAWN: PFR  
CHECKED: CLW CHECKED: LRD

**INDIANA**  
**DEPARTMENT OF TRANSPORTATION**

US 231 - CLINE AVE INTERSECTION IMPROVEMENT  
PAVEMENT QUANTITIES AND APPROACH TABLE AND  
PAVEMENT MARKINGS TABLE

HORIZONTAL SCALE	FILE
N/A	
VERTICAL SCALE	DESIGNATION
N/A	1700022
SURVEY BOOK	SHEETS
	29 of 46
CONTRACT	PROJECT
R-42251	1700022



## **APPENDIX C**

### Early Coordination



July 10, 2020

Sample Early Coordination Letter

Re: Des. No. 1700022  
US 231 and Cline Ave. Intersection Improvement, Lake County, Indiana

To Whom It May Concern:

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intends to proceed with a project involving the aforementioned intersection in Lake County. This letter is part of the early coordination phase of the environmental review process. We are requesting comments from your area of expertise regarding any possible environmental effects associated with this project. **Please use the above designation number and description in your reply.** We will incorporate your comments into a study of the project's environmental impacts.

The project is located at the intersection of US 231 and Cline Avenue near the Town of St. John in northeastern Lake County, 2.0 miles east of US 41. This section of US 231 is classified as an Other Principal Arterial, and Cline Ave. is a Minor Arterial. US 231 provides access to Crown Point, St. John, Cedar Lake, and the surrounding areas with a posted speed limit of 50 mph. The speed limit on Cline Ave. is 40 mph and 30 mph south of the intersection. The existing intersection is a four-way signalized intersection; each leg has a single approach lane with varying shoulder widths near the intersection that are insufficient for use as a passing blister or right-turn lane. The lack of turn lanes leads to delays, left-turn crashes, and rear-end crashes.

The current proposed project would replace the existing signal with a two-lane roundabout centered slightly west of the existing intersection to avoid a critical utility junction occurring on a pole immediately northeast of the intersection. Both permanent and temporary right-of-way will need to be acquired to accommodate the proposed improvement new permanent right-of-way could be as much as 6 acres depending on the design of the corresponding drainage improvements. Additional temporary right-of-way will be necessary for certain grading activities and driveway reconstruction. All right-of-way will be acquired from within the "Environmental Review Area" Illustrated on the attached Exhibit C. The method of traffic maintenance has yet to be finalized but is expected to include a temporary closure of the intersection, detouring both US 231 and Cline Ave. Construction could begin as early as Spring 2022.

Land use in the vicinity of the project area is primarily agricultural fields, with a private residence/farm located on the northeast quadrant. A Red Flag Investigation was performed by Troyer Group and located no significant items of concern. A Regulated Waters Delineation was completed in May 2020, and five roadside ditches and one wetland were found. The roadside ditches are likely non-jurisdictional; however, the wetland is likely under the jurisdiction of the US Army Corps of Engineers, Chicago District. Impacts are likely to occur to this wetland. Troyer Group will monitor the project scope relative to these features to ensure any impacts are properly permitted.

*It comes down to people and their experiences* | **Together, We Will**

550 Union St. | Mishawaka, IN 46544 | p 574.259.9976 | [www.troyergroup.com](http://www.troyergroup.com)

July 10, 2020

This project qualifies for the application of the USFWS range-wide programmatic informal consultation for the Indiana bat and northern long-eared bat and project information will be submitted through USFWS's Information for Planning and Consultation (IPaC) separately. The Troyer Group is working with sub consultants to investigate the areas of additional right-of-way for archaeological and historic resources for Section 106 compliance. The results of this investigation will be forwarded to the State Preservation Office (SHPO) for review and concurrence.

Should we not receive your response within thirty (30) calendar days from the date of this letter, it will be assumed that your agency feels that there will be no adverse effects incurred as a result of the proposed project. However, should you find that an extension to the response time is necessary, a reasonable amount may be granted upon request. If you have any questions regarding this matter, please feel free to contact C.J. Cunningham at The Troyer Group by emailing [cjc@troyergroup.com](mailto:cjc@troyergroup.com) or calling 574-259-9976 ex. 5006, or INDOT project manager Michael Grylewicz at [MGrylewicz@indot.IN.gov](mailto:MGrylewicz@indot.IN.gov). Thank you in advance for your input.

Sincerely,



C.J. Cunningham  
Manager - Environmental Services  
The Troyer Group

Attachments: Exhibit 1 - Project Location Map  
Exhibit 2 - USGS Map  
Exhibit 3a/3b - Project Area Aerial with Photo Orientation  
Project Area Photos

See Appendix B for attachments

cc: Indiana Geological Survey, Environmental Geology Section  
National Park Service, Midwest Regional Office  
Federal Highway Administration  
Indiana Department of Natural Resources, Division of Fish and Wildlife  
US Department of Housing & Urban Development, Chicago Regional Office  
Indiana Department of Transportation, Public Involvement Office  
U.S. Fish and Wildlife Service, Northern Indiana Sub-Office  
Department of the Army, Chicago District, Corps of Engineers  
Northwestern Indiana Regional Planning Commission  
INDOT, LaPorte District Office, Environmental Section Manager  
US Department of Agriculture, National Resources Conservation Service  
Indiana State Senator - District 6  
Lake County Highway Superintendent  
Lake County Surveyor  
Lake County Board of Commissioners  
Town of St. John Council, Ward 2  
Town of St. John, Town Manager  
Town of St. John, MS4 Coordinator





# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N642  
Indianapolis, Indiana 46204

**Eric Holcomb, Governor**  
**Joe McGuinness, Commissioner**

July 10, 2020

**TO:** Craig Phillips, MS4 Coordinator  
Town of St. John  
10955 W. 93rd Avenue  
St. John, IN 46373

**FROM:** C.J. Cunningham  
Troyer Group (on behalf of INDOT LaPorte District)  
550 Union Street  
Mishawaka, IN 46544

**RE:** Early Notification  
INDOT DES Number: 1700022  
Location: US 231 at Cline Ave.  
Description: Intersection Improvement

The Indiana Department of Transportation (INDOT) and Federal Highway Administration (FHWA) intend to proceed with the above project. You are being notified because this project lies within an Urbanized Area Boundary (UAB). In accordance with 327 IAC 15-13 (Rule 13 - Municipal Separate Storm Sewer Systems), INDOT has developed a Storm Water Quality Management Plan (SWQMP).

As part of its implementation, projects falling within the UAB will be required to consider appropriate post construction storm water quality best management practices (BMPs). These BMPs should take into consideration the available space, pollutants of concern and receiving waters.

This letter is for notification purposes only, and no action is required by you; however, if you would like to provide your input on water quality concerns, please provide this information **within thirty (30) calendar days** from the date of this letter to the undersigned. Should we not receive your response within the specified timeframe, it will be assumed that your agency does not have additional concerns about water quality issues resulting from the proposed project. Should you find that an extension to the response time is necessary, a reasonable amount of time may be granted upon request. If you have any questions regarding this matter, please feel free to contact C.J. Cunningham of the Troyer Group, at (574) 259-9976 or [cjc@troyergroup.com](mailto:cjc@troyergroup.com). Thank you in advance for your attention to this matter.

Sincerely,

C.J. Cunningham, Manager – Environmental Services  
Troyer Group



# United States Department of the Interior

## Fish and Wildlife Service



Indiana Field Office (ES)  
620 South Walker Street  
Bloomington, IN 47403-2121  
Phone: (812) 334-4261 Fax: (812) 334-4273

July 24, 2020

Mr. C.J. Cunningham  
Troyer Group  
550 Union Street  
Mishawaka, Indiana 46544

Project No.: Des. 1700022  
Project: Intersection Improvements US 231 at Cline Avenue  
Location: Lake County

Dear Mr. Cunningham:

This responds to your letter dated July 10, 2020, requesting our comments on the aforementioned project.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

The proposed project would replace the existing 4-way signalized intersection with a 2-lane roundabout centered west of the current intersection. An estimated 6 acres of new permanent right-of-way would be required. Land use within the proposed project area is row-crop agriculture, with a farmstead within 300 feet of the intersection in the northeast quadrant and an emergent wetland within 300 feet of the intersection in the southwest quadrant. Because of the shift of the roundabout toward the west, the wetland is likely to be impacted. Otherwise, we expect minor impacts to significant natural resources.

### ENDANGERED SPECIES

The proposed project is within the range of the Federally endangered Indiana bat (*Myotis sodalis*), piping plover (*Charadrius melodus*), Karner blue butterfly (*Lycaeides melissa samuelis*), and rusty patched bumblebee (*Bombus affinis*), and the threatened northern long-eared bat

(Myotis septentrionalis), Rufa red knot (Calidris canutus rufa), Mead's milkweed (Asclepias meadii) and Pitcher's thistle (Cirsium pitcheri). Possible impacts on the 2 bat species will be evaluated utilizing the Range-wide Programmatic Section 7 Consultation process.

There is no habitat in the project area for the piping plover, Rufa red knot, Karner blue butterfly, and Pitcher's thistle. The project area is within a Primary Dispersal Zone of the rusty patched bumblebee; however, the bumblebee requires 3 seasons of flowers to provide nectar and pollen for the colony, a resource that is not available in the active cropland of the project site. The project area is also close to a site supporting the Mead's milkweed; however, the milkweed is not present at the construction area. Therefore, we agree that the proposed project is not likely to adversely affect these endangered and threatened species.

This precludes the need for further consultation on this project for the piping plover, Karner blue butterfly, rusty patched bumblebee, Rufa red knot, Mead's milkweed, and Pitcher's thistle as required under Section 7 of the Endangered Species Act of 1973, as amended. However, should new information arise pertaining to project plans or a revised species list be published, it will be necessary for the Federal agency to reinitiate consultation.

We appreciate the opportunity to comment on this proposed project. If project plans change, please recoordinate with our office as soon as possible. For further discussion, please contact Elizabeth McCloskey at (219) 983-9753 or [elizabeth\\_mccloskey@fws.gov](mailto:elizabeth_mccloskey@fws.gov).

Sincerely yours,

/s/ *Elizabeth S. McCloskey*

for Scott E. Pruitt  
Supervisor

Sent via email July 24, 2020; no hard copy to follow.

July 27, 2020

C. J. Cunningham  
The Troyer Group  
550 Union Street  
Mishawaka, Indiana 46544

Dear Mr. Cunningham:

The proposed project to make intersection improvements along US 231 and Cline Avenue in Lake County, Indiana, (Des No 1700022) as referred to in your letter received July 10, 2020, will cause a conversion of prime farmland.

The attached packet of information is for your use competing Parts VI and VII of the AD-1006. After completion, the federal funding agency needs to forward one copy to NRCS for our records.

If you need additional information, please contact John Allen at 317-295-5859.

Sincerely,

RICK NEILSON  
State Soil Scientist

Enclosures



U.S. Department of Agriculture

**FARMLAND CONVERSION IMPACT RATING**

<b>PART I</b> (To be completed by Federal Agency)		Date Of Land Evaluation Request <b>7/10/2020</b>			
Name of Project <b>US 231 at Cline Ave. Int. Improvement</b>		Federal Agency Involved <b>FWHA</b>			
Proposed Land Use <b>Transportation (Roundabout/drainage)</b>		County and State <b>Lake, Indiana</b>			
<b>PART II</b> (To be completed by NRCS)		Date Request Received By NRCS <b>7/10/2020</b>		Person Completing Form: <b>JRA</b>	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		Acres Irrigated _____ Average Farm Size <b>293 ac</b>	
Major Crop(s) <b>Corn</b>		Farmable Land In Govt. Jurisdiction Acres: <b>266576% 82</b>		Amount of Farmland As Defined in FPPA Acres: <b>23103% 71</b>	
Name of Land Evaluation System Used <b>LESA</b>		Name of State or Local Site Assessment System _____		Date Land Evaluation Returned by NRCS <b>7/27/2020</b>	
<b>PART III</b> (To be completed by Federal Agency)		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly		0.0	6.0		
B. Total Acres To Be Converted Indirectly		0.0	0.0		
C. Total Acres In Site		0.0	6.0		
<b>PART IV</b> (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland			5.76		
B. Total Acres Statewide Important or Local Important Farmland			0.00		
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted			0.002		
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value			32		
<b>PART V</b> (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)			87		
<b>PART VI</b> (To be completed by Federal Agency) Site Assessment Criteria <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>		<b>Maximum Points</b>	Site A	Site B	Site C
1. Area In Non-urban Use		(15)		11	
2. Perimeter In Non-urban Use		(10)		10	
3. Percent Of Site Being Farmed		(20)		8	
4. Protection Provided By State and Local Government		(20)		0	
5. Distance From Urban Built-up Area		(15)		5	
6. Distance To Urban Support Services		(15)		10	
7. Size Of Present Farm Unit Compared To Average		(10)		1	
8. Creation Of Non-farmable Farmland		(10)		0	
9. Availability Of Farm Support Services		(5)		3	
10. On-Farm Investments		(20)		15	
11. Effects Of Conversion On Farm Support Services		(10)		0	
12. Compatibility With Existing Agricultural Use		(10)		0	
TOTAL SITE ASSESSMENT POINTS		160	0	63	0
<b>PART VII</b> (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100	0	87	0
Total Site Assessment (From Part VI above or local site assessment)		160	0	63	0
<b>TOTAL POINTS (Total of above 2 lines)</b>		260	0	150	0
Site Selected: <b>Site B</b>		Date Of Selection <b>6/25/2021</b>		Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
Reason For Selection: <b>Site A represents the no-build alternative, which would not meet the project's purpose and need. Site B is the preferred alternative.</b>					
Name of Federal agency representative completing this form:					Date:

(See Instructions on reverse side)

Form AD-1006 (03-02)

## Organization and Project Information

**Project ID:**  
**Des. ID:** 1700022  
**Project Title:** US 231 and Cline Ave. Intersection Improvement  
**Name of Organization:** The Troyer Group  
**Requested by:** CJ Cunningham

## Environmental Assessment Report

1. Geological Hazards:
  - Moderate liquefaction potential
  - 1% Annual Chance Flood Hazard
2. Mineral Resources:
  - Bedrock Resource: High Potential
  - Sand and Gravel Resource: Low Potential
3. Active or abandoned mineral resources extraction sites:
  - None documented in the area

\*All map layers from Indiana Map ([maps.indiana.edu](http://maps.indiana.edu))

### **DISCLAIMER:**

This document was compiled by Indiana University, Indiana Geological Survey, using data believed to be accurate; however, a degree of error is inherent in all data. This product is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. No attempt has been made in either the design or production of these data and document to define the limits or jurisdiction of any federal, state, or local government. The data used to assemble this document are intended for use only at the published scale of the source data or smaller (see the metadata links below) and are for reference purposes only. They are not to be construed as a legal document or survey instrument. A detailed on-the-ground survey and historical analysis of a single site may differ from these data and this document.

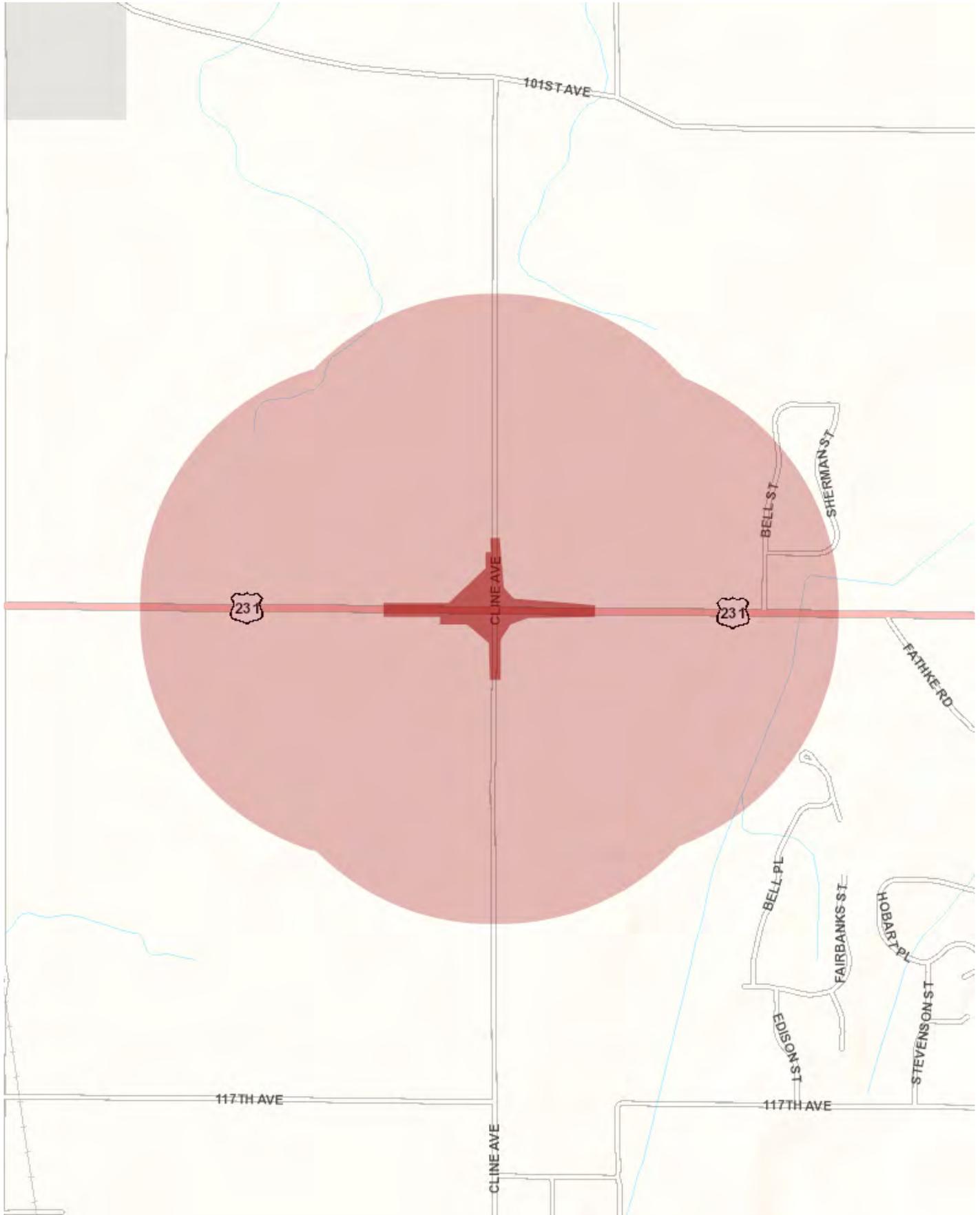
This information was furnished by Indiana Geological Survey

Address: 420 N. Walnut St., Bloomington, IN 47404

Email: [IGSEnvir@indiana.edu](mailto:IGSEnvir@indiana.edu)

Phone: 812 855-7428

Date: July 28, 2020



# Metadata:

- [https://maps.indiana.edu/metadata/Geology/Seismic\\_Earthquake\\_Liquefaction\\_Potential.html](https://maps.indiana.edu/metadata/Geology/Seismic_Earthquake_Liquefaction_Potential.html)
- [https://maps.indiana.edu/metadata/Geology/Industrial\\_Minerals\\_Sand\\_Gravel\\_Resources.html](https://maps.indiana.edu/metadata/Geology/Industrial_Minerals_Sand_Gravel_Resources.html)
- [https://maps.indiana.edu/metadata/Hydrology/Floodplains\\_FIRM.html](https://maps.indiana.edu/metadata/Hydrology/Floodplains_FIRM.html)
- [https://maps.indiana.edu/metadata/Geology/Bedrock\\_Geology.html](https://maps.indiana.edu/metadata/Geology/Bedrock_Geology.html)



# Indiana Department of Environmental Management

*We Protect Hoosiers and Our Environment.*

100 North Senate Avenue - Indianapolis, IN 46204  
(800) 451-6027 - (317) 232-8603 - [www.idem.IN.gov](http://www.idem.IN.gov)

INDOT LaPorte District  
Michael Grylewicz  
315 E. Boyd Boulevard  
LaPorte, IN 46350  
Date July 28, 2020

The Troyer Group  
CJ Cunningham  
550 Union St.  
Mishawaka, IN 46544

To Engineers and Consultants Proposing Roadway Construction Projects:

**RE:** Des. No. 1700022; US 231 and Cline Ave. Intersection Improvement The project is located at the intersection of US 231 and Cline Avenue near the Town of St. John in northeastern Lake County, 2.0 miles east of US 41. The existing intersection is a four-way signalized intersection. The lack of turn lanes leads to delays, left-turn crashes, and rear-end crashes. The current proposed project would replace the existing signal with a two-lane roundabout centered slightly west of the existing intersection to avoid a critical utility junction occurring on a pole immediately northeast of the intersection.

This letter from the Indiana Department of Environmental Management (IDEM) serves as a standardized response to enquiries inviting IDEM comments on roadway construction, reconstruction, or other improvement projects within existing roadway corridors when the proposed scope of the project is beneath the threshold requiring a formal National Environmental Policy Act-mandated Environmental Assessment or Environmental Impact Statement. As the letter attempts to address all roadway-related environmental topics of potential concern, it is possible that not every topic addressed in the letter will be applicable to your particular roadway project.

For additional information on specific roadway-related topics of interest, please visit the appropriate Web pages cited below, many of which provide contact information for persons within the various program areas who can answer questions not fully addressed in this letter. Also please be mindful that some environmental requirements may be subject to change and so each person intending to include a copy of this letter in their project documentation packet is advised to download the most recently revised version of the letter; found at: <http://www.in.gov/idem/5283.htm> (<http://www.in.gov/idem/5283.htm>).

To ensure that all environmentally-related issues are adequately addressed, IDEM recommends that you read this letter in its entirety, and consider each of the following issues as you move forward with the planning of your proposed roadway construction, reconstruction, or improvement project:

## WATER AND BIOTIC QUALITY

1. Section 404 of the Clean Water Act requires that you obtain a permit from the U.S. Army Corps of Engineers (USACE) before discharging dredged or fill materials into any wetlands or other waters, such as rivers, lakes, streams, and ditches. Other activities regulated include the relocation, channelization, widening, or other such alteration of a stream, and the mechanical clearing (use of heavy construction equipment) of wetlands. Thus, as a project owner or sponsor, it is your responsibility to ensure that no wetlands are disturbed without the proper permit. Although you may initially refer to the U.S. Fish and Wildlife Service National Wetland Inventory maps as a means of identifying potential areas of concern, please be mindful that those maps do not depict jurisdictional wetlands regulated by the USACE or the Department of Environmental Management. A valid jurisdictional wetlands determination can only be made by the USACE, using the 1987 Wetland Delineation Manual.

USACE recommends that you have a consultant check to determine whether your project will abut, or lie within, a wetland area. To view a list of consultants that have requested to be included on a list posted by the USACE on their Web site, see USACE Permits and Public Notices (<http://www.lrl.usace.army.mil/orf/default.asp>) (<http://www.lrl.usace.army.mil/orf/default.asp>) and then click on "Information" from the menu on the right-hand side of that page.

Their "Consultant List" is the fourth entry down on the "Information" page. Please note that the USACE posts all consultants that request to appear on the list, and that inclusion of any particular consultant on the list does not represent an endorsement of that consultant by the USACE, or by IDEM.

Much of northern Indiana (Newton, Lake, Porter, LaPorte, St. Joseph, Elkhart, LaGrange, Steuben, and Dekalb counties; large portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and lesser portions of Benton, White, Pulaski, Kosciusko, and Wells counties) is served by the USACE District Office in Detroit (313-226-6812). The central and southern portions of the state (large portions of Benton, White, Pulaski, Kosciusko, and Wells counties; smaller portions of Jasper, Starke, Marshall, Noble, Allen, and Adams counties; and all other Indiana counties located in north-central, central, and southern Indiana ) are served by the USACE Louisville District Office (502-315-6733).

Additional information on contacting these U.S. Army Corps of Engineers (USACE) District Offices, government agencies with jurisdiction over wetlands, and other water quality issues, can be found at <http://www.in.gov/ideM/4396.htm> (<http://www.in.gov/ideM/4396.htm>). IDEM recommends that impacts to wetlands and other water resources be avoided to the fullest extent.

2. In the event a Section 404 wetlands permit is required from the USACE, you also must obtain a Section 401 Water Quality Certification from the IDEM Office of Water Quality Wetlands Program. To learn more about the Wetlands Program, visit: <http://www.in.gov/ideM/4384.htm> (<http://www.in.gov/ideM/4384.htm>).
3. If the USACE determines that a wetland or other water body is isolated and not subject to Clean Water Act regulation, it is still regulated by the state of Indiana . A State Isolated Wetland permit from IDEM's Office of Water Quality (OWQ) is required for any activity that results in the discharge of dredged or fill materials into isolated wetlands. To learn more about isolated wetlands, contact the OWQ Wetlands Program at 317-233-8488.
4. If your project will involve over a 0.5 acre of wetland impact, stream relocation, or other large-scale alterations to water bodies such as the creation of a dam or a water diversion, you should seek additional input from the OWQ Wetlands Program staff. Consult the Web at: <http://www.in.gov/ideM/4384.htm> (<http://www.in.gov/ideM/4384.htm>) for the appropriate staff contact to further discuss your project.
5. Work within the one-hundred year floodway of a given water body is regulated by the Department of Natural Resources, Division of Water. The Division issues permits for activities regulated under the follow statutes:
  - o IC 14-26-2 Lakes Preservation Act 312 IAC 11
  - o IC 14-26-5 Lowering of Ten Acre Lakes Act No related code
  - o IC 14-28-1 Flood Control Act 310 IAC 6-1
  - o IC 14-29-1 Navigable Waterways Act 312 IAC 6
  - o IC 14-29-3 Sand and Gravel Permits Act 312 IAC 6
  - o IC 14-29-4 Construction of Channels Act No related code

For information on these Indiana (statutory) Code and Indiana Administrative Code citations, see the DNR Web site at: <http://www.in.gov/dnr/water/9451.htm> (<http://www.in.gov/dnr/water/9451.htm>) . Contact the DNR Division of Water at 317-232-4160 for further information.

The physical disturbance of the stream and riparian vegetation, especially large trees overhanging any affected water bodies should be limited to only that which is absolutely necessary to complete the project. The shade provided by the large overhanging trees helps maintain proper stream temperatures and dissolved oxygen for aquatic life.

6. For projects involving construction activity (which includes clearing, grading, excavation and other land disturbing activities) that result in the disturbance of one (1), or more, acres of total land area, contact the Office of Water Quality – Watershed Planning Branch (317/233-1864) regarding the need for of a Rule 5 Storm Water Runoff Permit. Visit the following Web page
  - o <http://www.in.gov/ideM/4902.htm> (<http://www.in.gov/ideM/4902.htm>)

To obtain, and operate under, a Rule 5 permit you will first need to develop a Construction Plan (<http://www.in.gov/ideM/4917.htm#constreq>) (<http://www.in.gov/ideM/4917.htm#constreq>), and as described in 327 IAC 15-5-6.5 (<http://www.in.gov/legislative/iac/T03270/A00150> [PDF] (<http://www.in.gov/legislative/iac/T03270/A00150.PDF>), pages 16 through 19). Before you may apply for a Rule 5 Permit, or begin construction, you must submit your Construction Plan to your county Soil and Water Conservation District (SWCD) (<http://www.in.gov/isda/soil/contacts/map.html> (<http://www.in.gov/isda/soil/contacts/map.html>)).

Upon receipt of the construction plan, personnel of the SWCD or the Indiana Department of Environmental Management will review the plan to determine if it meets the requirements of 327 IAC 15-5. Plans that are deemed deficient will require re-submittal. If the plan is sufficient you will be notified and instructed to submit the verification to IDEM as part of the Rule 5 Notice of Intent (NOI) submittal. Once construction begins, staff of the SWCD or Indiana Department of Environmental Management will perform inspections of activities at the site for compliance with the regulation.

Please be mindful that approximately 149 Municipal Separate Storm Sewer System (MS4) areas are now being established by various local governmental entities throughout the state as part of the implementation of Phase II federal storm water requirements. All of these MS4 areas will eventually take responsibility for Construction Plan review, inspection, and enforcement. As these MS4 areas obtain program approval from IDEM, they will be added to a list of MS4 areas posted on the IDEM Website at: <http://www.in.gov/idem/4900.htm> (<http://www.in.gov/idem/4900.htm>).

If your project is located in an IDEM-approved MS4 area, please contact the local MS4 program about meeting their storm water requirements. Once the MS4 approves the plan, the NOI can be submitted to IDEM.

Regardless of the size of your project, or which agency you work with to meet storm water requirements, IDEM recommends that appropriate structures and techniques be utilized both during the construction phase, and after completion of the project, to minimize the impacts associated with storm water runoff. The use of appropriate planning and site development and appropriate storm water quality measures are recommended to prevent soil from leaving the construction site during active land disturbance and for post construction water quality concerns. Information and assistance regarding storm water related to construction activities are available from the Soil and Water Conservation District (SWCD) offices in each county or from IDEM.

7. For projects involving impacts to fish and botanical resources, contact the Department of Natural Resources - Division of Fish and Wildlife (317/232-4080) for addition project input.
8. For projects involving water main construction, water main extensions, and new public water supplies, contact the Office of Water Quality - Drinking Water Branch (317-308-3299) regarding the need for permits.
9. For projects involving effluent discharges to waters of the State of Indiana , contact the Office of Water Quality - Permits Branch (317-233-0468) regarding the need for a National Pollutant Discharge Elimination System (NPDES) permit.
10. For projects involving the construction of wastewater facilities and sewer lines, contact the Office of Water Quality - Permits Branch (317-232-8675) regarding the need for permits.

## AIR QUALITY

The above-noted project should be designed to minimize any impact on ambient air quality in, or near, the project area. The project must comply with all federal and state air pollution regulations. Consideration should be given to the following:

1. Regarding open burning, and disposing of organic debris generated by land clearing activities; some types of open burning are allowed (<http://www.in.gov/idem/4148.htm> (<http://www.in.gov/idem/4148.htm>)) under specific conditions. You also can seek an open burning variance from IDEM.

However, IDEM generally recommends that you take vegetative wastes to a registered yard waste composting facility or that the waste be chipped or shredded with composting on site (you must register with IDEM if more than 2,000 pounds is to be composted; contact 317/232-0066). The finished compost can then be used as a mulch or soil amendment. You also may bury any vegetative wastes (such as leaves, twigs, branches, limbs, tree trunks and stumps) onsite, although burying large quantities of such material can lead to subsidence problems, later on.

Reasonable precautions must be taken to minimize fugitive dust emissions from construction and demolition activities. For example, wetting the area with water, constructing wind barriers, or treating dusty areas with chemical stabilizers (such as calcium chloride or several other commercial products). Dirt tracked onto paved roads from unpaved areas should be minimized.

Additionally, if construction or demolition is conducted in a wooded area where blackbirds have roosted or abandoned buildings or building sections in which pigeons or bats have roosted for 3-5 years precautionary measures should be taken to avoid an outbreak of histoplasmosis. This disease is caused by the fungus *Histoplasma capsulatum*, which stems from bird or bat droppings that have accumulated in one area for 3-5 years. The spores from this fungus become airborne when the area is disturbed and can cause infections over an entire community downwind of the site. The area should be wetted down prior to cleanup or demolition of the project site. For more detailed information on histoplasmosis prevention and control, please contact the Acute Disease Control Division of the Indiana State Department of Health at (317) 233-7272.

2. The U.S. EPA and the Surgeon General recommend that people not have long-term exposure to radon at levels above 4 pCi/L. (For a county-by-county map of predicted radon levels in Indiana, visit: <http://www.in.gov/idem/4145.htm> (<http://www.in.gov/idem/4145.htm>).

The U.S. EPA further recommends that all homes (and apartments within three stories of ground level) be tested for radon. If in-home radon levels are determined to be 4 pCi/L, or higher, EPA recommends a follow-up test. If the second test confirms that radon levels are 4 pCi/L, or higher, EPA recommends the installation of radon-reduction measures. (For a list of qualified radon testers and radon mitigation (or reduction) specialists visit: [http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon\\_testers\\_mitigators\\_list.pdf](http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf) ([http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon\\_testers\\_mitigators\\_list.pdf](http://www.in.gov/isdh/regsvcs/radhealth/pdfs/radon_testers_mitigators_list.pdf))). It also is recommended that radon reduction measures be built into all new homes, particularly in areas like Indiana that have moderate to high predicted radon levels.

To learn more about radon, radon risks, and ways to reduce exposure visit: <http://www.in.gov/isdh/regsvcs/radhealth/radon.htm> (<http://www.in.gov/isdh/regsvcs/radhealth/radon.htm>), <http://www.in.gov/idem/4145.htm> (<http://www.in.gov/idem/4145.htm>), or <http://www.epa.gov/radon/index.html> (<http://www.epa.gov/radon/index.html>).

3. With respect to asbestos removal: all facilities slated for renovation or demolition (except residential buildings that have (4) four or fewer dwelling units and which will not be used for commercial purposes) must be inspected by an Indiana-licensed asbestos inspector prior to the commencement of any renovation or demolition activities. If regulated asbestos-containing material (RACM) that may become airborne is found, any subsequent demolition, renovation, or asbestos removal activities must be performed in accordance with the proper notification and emission control requirements.

If no asbestos is found where a renovation activity will occur, or if the renovation involves removal of less than 260 linear feet of RACM off of pipes, less than 160 square feet of RACM off of other facility components, or less than 35 cubic feet of RACM off of all facility components, the owner or operator of the project does not need to notify IDEM before beginning the renovation activity.

For questions on asbestos demolition and renovation activities, you can also call IDEM's Lead/Asbestos section at 1-888-574-8150.

However, in all cases where a demolition activity will occur (even if no asbestos is found), the owner or operator must still notify IDEM 10 working days prior to the demolition, using the form found at <http://www.in.gov/icpr/webfile/formsdiv/44593.pdf> (<http://www.in.gov/icpr/webfile/formsdiv/44593.pdf>).

Anyone submitting a renovation/demolition notification form will be billed a notification fee based upon the amount of friable asbestos containing material to be removed or demolished. Projects that involve the removal of more than 2,600 linear feet of friable asbestos containing materials on pipes, or 1,600 square feet or 400 cubic feet of friable asbestos containing material on other facility components, will be billed a fee of \$150 per project; projects below these amounts will be billed a fee of \$50 per project. All notification remitters will be billed on a quarterly basis.

For more information about IDEM policy regarding asbestos removal and disposal, visit: <http://www.in.gov/idem/4983.htm> (<http://www.in.gov/idem/4983.htm>).

4. With respect to lead-based paint removal: IDEM encourages all efforts to minimize human exposure to lead-based paint chips and dust. IDEM is particularly concerned that young children exposed to lead can suffer from learning disabilities. Although lead-based paint abatement efforts are not mandatory, any abatement that is conducted within housing built before January 1, 1978, or a child-occupied facility is required to comply with all lead-based paint work practice standards, licensing and notification requirements. For more information about lead-based paint removal visit: <http://www.in.gov/isdh/19131.htm> (<http://www.in.gov/isdh/19131.htm>).
5. Ensure that asphalt paving plants are permitted and operate properly. The use of cutback asphalt, or asphalt emulsion containing more than seven percent (7%) oil distillate, is prohibited during the months April through October. See 326 IAC 8-5-2, Asphalt Paving Rule (<http://www.ai.org/legislative/iac/T03260/A00080.PDF>

(<http://www.ai.org/legislative/iac/T03260/A00080.PDF>)).

6. If your project involves the construction of a new source of air emissions or the modification of an existing source of air emissions or air pollution control equipment, it will need to be reviewed by the IDEM Office of Air Quality (OAQ). A registration or permit may be required under 326 IAC 2 (View at: [www.ai.org/legislative/iac/t03260/a00020.pdf](http://www.ai.org/legislative/iac/t03260/a00020.pdf)) (<http://www.ai.org/legislative/iac/t03260/a00020.pdf>.) New sources that use or emit hazardous air pollutants may be subject to Section 112 of the Clean Air Act and corresponding state air regulations governing hazardous air pollutants.
7. For more information on air permits visit: <http://www.in.gov/idem/4223.htm> (<http://www.in.gov/idem/4223.htm>), or to initiate the IDEM air permitting process, please contact the Office of Air Quality Permit Reviewer of the Day at (317) 233-0178 or OAMPROD atdem.state.in.us.

## LAND QUALITY

In order to maintain compliance with all applicable laws regarding contamination and/or proper waste disposal, IDEM recommends that:

1. If the site is found to contain any areas used to dispose of solid or hazardous waste, you need to contact the Office of Land Quality (OLQ) at 317-308-3103.
2. All solid wastes generated by the project, or removed from the project site, need to be taken to a properly permitted solid waste processing or disposal facility. For more information, visit <http://www.in.gov/idem/4998.htm> (<http://www.in.gov/idem/4998.htm>).
3. If any contaminated soils are discovered during this project, they may be subject to disposal as hazardous waste. Please contact the OLQ at 317-308-3103 to obtain information on proper disposal procedures.
4. If PCBs are found at this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding management of any PCB wastes from this site.
5. If there are any asbestos disposal issues related to this site, please contact the Industrial Waste Section of OLQ at 317-308-3103 for information regarding the management of asbestos wastes (Asbestos removal is addressed above, under Air Quality).
6. If the project involves the installation or removal of an underground storage tank, or involves contamination from an underground storage tank, you must contact the IDEM Underground Storage Tank program at 317/308-3039. See: <http://www.in.gov/idem/4999.htm> (<http://www.in.gov/idem/4999.htm>).

## FINAL REMARKS

Should you need to obtain any environmental permits in association with this proposed project, please be mindful that IC 13-15-8 requires that you notify all adjoining property owners and/or occupants within ten days your submittal of each permit application. However, if you are seeking multiple permits, you can still meet the notification requirement with a single notice if all required permit applications are submitted with the same ten day period.

Should the scope of the proposed project be expanded to the extent that a National Environmental Policy Act Environmental Assessment (EA) or Environmental Impact Statement (EIS) is required, IDEM will actively participate in any early interagency coordination review of the project.

Meanwhile, please note that this letter does not constitute a permit, license, endorsement or any other form of approval on the part of the Indiana Department of Environmental Management regarding any project for which a copy of this letter is used. Also note that it is the responsibility of the project engineer or consultant using this letter to ensure that the most current draft of this document, which is located at <http://www.in.gov/idem/5284.htm> (<http://www.in.gov/idem/5284.htm>), is used.

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## Signature(s) of the Applicant

I acknowledge that the following proposed roadway project will be financed in part, or in whole, by public monies.

# Project Description

Des. No. 1700022; US 231 and Cline Ave. Intersection Improvement The project is located at the intersection of US 231 and Cline Avenue near the Town of St. John in northeastern Lake County, 2.0 miles east of US 41. The existing intersection is a four-way signalized intersection. The lack of turn lanes leads to delays, left-turn crashes, and rear-end crashes. The current proposed project would replace the existing signal with a two-lane roundabout centered slightly west of the existing intersection to avoid a critical utility junction occurring on a pole immediately northeast of the intersection.

With my signature, I do hereby affirm that I have read the letter from the Indiana Department of Environment that appears directly above. In addition, I understand that in order to complete that project in which I am interested, with a minimum of impact to the environment, I must consider all the issues addressed in the aforementioned letter, and further, that I must obtain any required permits.

Date: 7/30/2020

Signature of the INDOT  
Project Engineer or Other Responsible Agent Michael Grylewicz

Michael Grylewicz

Date: 7/30/2020

Signature of the  
For Hire Consultant CJ. Cunningham

CJ Cunningham

**State of Indiana**  
**DEPARTMENT OF NATURAL RESOURCES**  
**Division of Fish and Wildlife**  
**Early Coordination/Environmental Assessment**

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**DNR #:** ER-22834

**Request Received:** July 10, 2020

**Requestor:** The Troyer Group Inc.  
CJ Cunningham  
550 Union Street  
Mishawaka, IN 46544-2340

**Project:** US 231 and Cline Avenue intersection roundabout construction, and new detention basin, 2.0 miles east of US 41; Des #1700022

**County/Site info:** Lake

The Indiana Department of Natural Resources has reviewed the above referenced project per your request. Our agency offers the following comments for your information and in accordance with the National Environmental Policy Act of 1969.

If our agency has regulatory jurisdiction over the project, the recommendations contained in this letter may become requirements of any permit issued. If we do not have permitting authority, all recommendations are voluntary.

\*NOTE: This project is within the Lake Michigan Coastal Program's boundary; therefore, it may be subject to Federal Consistency (FC) review. Please go to <http://www.in.gov/dnr/lakemich/files/20070214-IR-312070085NRA.xml.pdf> (Section III, pages 8-16) to see the federal activities that require a project to go through the FC process which is outlined at <http://www.in.gov/dnr/lakemich/6041.htm>.

**Regulatory Assessment:** Formal approval by the Department of Natural Resources under the regulatory programs administered by the Division of Water is not required for this project.

**Natural Heritage Database:** The Natural Heritage Program's data have been checked. To date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

**Fish & Wildlife Comments:** Due to the presence or potential presence of wetland habitat on site, we recommend contacting and coordinating with the Indiana Department of Environmental Management (IDEM) 401 program and also the US Army Corps of Engineers (USACE) 404 program. Impacts to wetland habitat should be mitigated at the appropriate ratio according to the 1991 INDOT/IDNR/USFWS Memorandum of Understanding.

The additional measures listed below should be implemented to avoid, minimize, or compensate for impacts to fish, wildlife, and botanical resources:

1. Revegetate all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion; low endophyte tall fescue may be used in the ditch bottom and side slopes only.
2. Appropriately designed measures for controlling erosion and sediment must be implemented to prevent sediment from entering the stream or leaving the construction site; maintain these measures until construction is complete and all disturbed areas are stabilized.
3. Seed and protect all disturbed streambanks and slopes not protected by other methods that are 3:1 or steeper with erosion control blankets that are heavy-duty, biodegradable, and net free or that use loose-woven / Leno-woven netting to minimize the entrapment and snaring of small-bodied wildlife such as snakes and turtles (follow manufacturer's recommendations for selection and installation); seed and apply mulch on all other disturbed areas.
4. Do not excavate or place fill in any riparian wetland.

**THIS IS NOT A PERMIT**

**State of Indiana**  
**DEPARTMENT OF NATURAL RESOURCES**  
**Division of Fish and Wildlife**  
Early Coordination/Environmental Assessment

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**Contact Staff:**

Christie L. Stanifer, Environ. Coordinator, Fish & Wildlife  
Our agency appreciates this opportunity to be of service. Please contact the above staff member at (317) 232-4080 if we can be of further assistance.

*Christie L. Stanifer*

**Date:** August 7, 2020

Christie L. Stanifer  
Environ. Coordinator  
Division of Fish and Wildlife



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Indiana Ecological Services Field Office

620 South Walker Street

Bloomington, IN 47403-2121

Phone: (812) 334-4261 Fax: (812) 334-4273

<http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html>

In Reply Refer To:

July 29, 2020

Consultation Code: 03E12000-2020-SLI-2328

Event Code: 03E12000-2020-E-09221

Project Name: Des. No. 1700022 US 231 at Cline Ave. Intersection Improvement Roundabout

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies any federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat if present within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Service if they determine their project “may affect” listed species or critical habitat.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally. You may verify the list by visiting the ECOS-IPaC website <http://ecos.fws.gov/ipac/> at regular intervals during project planning and implementation and completing the same process you used to receive the attached list. As an alternative, you may contact this Ecological Services Field Office for updates.

Please use the species list provided and visit the U.S. Fish and Wildlife Service's Region 3 Section 7 Technical Assistance website at - <http://www.fws.gov/midwest/endangered/section7/s7process/index.html>. This website contains step-by-step instructions which will help you

determine if your project will have an adverse effect on listed species and will help lead you through the Section 7 process.

For all **wind energy projects** and **projects that include installing towers that use guy wires or are over 200 feet in height**, please contact this field office directly for assistance, even if no federally listed plants, animals or critical habitat are present within your proposed project or may be affected by your proposed project.

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*) and Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*), as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, see our Eagle Permits website at <http://www.fws.gov/midwest/midwestbird/EaglePermits/index.html> to help you determine if you can avoid impacting eagles or if a permit may be necessary.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Indiana Ecological Services Field Office**

620 South Walker Street

Bloomington, IN 47403-2121

(812) 334-4261

## Project Summary

Consultation Code: 03E12000-2020-SLI-2328

Event Code: 03E12000-2020-E-09221

Project Name: Des. No. 1700022 US 231 at Cline Ave. Intersection Improvement Roundabout

Project Type: TRANSPORTATION

Project Description: The project is located on US 231 at Cline Avenue, 2.0 mi east of U.S. 41, in Lake County, Hanover and Center Township, Sections 2, 3, 10, 11; T-34-N, R-9-W, Saint John Quadrangle. US 231 is an east - west, two-lane roadway and is classified as Principal Arterial, Cline Avenue is a north-south, two-lane, roadway and is classified as minor Arterial. The project length is 0.38 mile.

The scope of the project is to construct a two-lane roundabout, including a new storm sewer that will collect drainage runoff to be emptied into a drainage basin in the intersection's northwest or southwest quadrant. Excavation work, up to a depth of 6-10 feet, will be necessary to complete the project.

This project is expected to require approximately 3.0 acres of additional right-of-way and 0.10 acres of temporary right-of-way. The project area is within 1000 feet of suitable summer bat habitat. A wetland is located in the southwest corner of the project area. Permanent lighting will be included with this project, and temporary lighting may be necessary and shall be directed down and away from potential bat habitat if used. No structure work is associated with this project. No tree trimming or clearing will be associated with the project.

The project's bid letting is scheduled for January 12, 2022, with construction expected to begin Spring 2022.

Maintenance of traffic will consist of detouring US 231, requiring an additional 9.4 travel miles, totaling 16.9 total miles, with an anticipated 75 day closure.

A review of the USFWS database that was performed by INDOT on May 27, 2020 did not indicate the presence of endangered bat species within 0.5 mile of the project area. An inspection of 8 maintenance pipe locations within the project area was performed by The Troyer Group on May 1, 2020. No evidence of bat or bird presence was discovered.

**Project Location:**

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/41.42091615481484N87.43096153971267W>



Counties: Lake, IN

## Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/5949">https://ecos.fws.gov/ecp/species/5949</a> Species survey guidelines: <a href="https://ecos.fws.gov/ipac/guideline/survey/population/1/office/31440.pdf">https://ecos.fws.gov/ipac/guideline/survey/population/1/office/31440.pdf</a>	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>▪ Incidental take of the NLEB is not prohibited here. Federal agencies may consult using the 4(d) rule streamlined process. Transportation projects may consult using the programmatic process. See <a href="http://www.fws.gov/midwest/endangered/mammals/nleb/index.html">www.fws.gov/midwest/endangered/mammals/nleb/index.html</a></li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

## Flowering Plants

NAME	STATUS
Mead's Milkweed <i>Asclepias meadii</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/8204">https://ecos.fws.gov/ecp/species/8204</a>	Threatened

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## **Critical habitats**

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

Indiana Ecological Services Field Office

620 South Walker Street

Bloomington, IN 47403-2121

Phone: (812) 334-4261 Fax: (812) 334-4273

<http://www.fws.gov/midwest/Endangered/section7/s7process/step1.html>

In Reply Refer To:

August 07, 2020

Consultation Code: 03E12000-2020-I-2328

Event Code: 03E12000-2020-E-09494

Project Name: Des. No. 1700022 US 231 at Cline Ave. Intersection Improvement Roundabout

Subject: Concurrence verification letter for the 'Des. No. 1700022 US 231 at Cline Ave. Intersection Improvement Roundabout' project under the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

To whom it may concern:

The U.S. Fish and Wildlife Service (Service) has received your request to verify that the **Des. No. 1700022 US 231 at Cline Ave. Intersection Improvement Roundabout** (Proposed Action) may rely on the concurrence provided in the February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat (PBO) to satisfy requirements under Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C 1531 *et seq.*).

Based on the information you provided (Project Description shown below), you have determined that the Proposed Action is within the scope and adheres to the criteria of the PBO, including the adoption of applicable avoidance and minimization measures, and may affect, but is not likely to adversely affect (NLAA) the endangered Indiana bat (*Myotis sodalis*) and/or the threatened Northern long-eared bat (*Myotis septentrionalis*).

The Service has 14 calendar days to notify the lead Federal action agency or designated non-federal representative if we determine that the Proposed Action does not meet the criteria for a NLAA determination under the PBO. If we do not notify the lead Federal action agency or designated non-federal representative within that timeframe, you may proceed with the Proposed Action under the terms of the NLAA concurrence provided in the PBO. This verification period allows Service Field Offices to apply local knowledge to implementation of the PBO, as we may identify a small subset of actions having impacts that were unanticipated. In such instances, Service Field Offices may request additional information that is necessary to verify inclusion of the proposed action under the PBO.

**For Proposed Actions that include bridge/structure removal, replacement, and/or maintenance activities:** If your initial bridge/structure assessments failed to detect Indiana bats, but you later detect bats during construction, please submit the Post Assessment Discovery of Bats at Bridge/Structure Form (User Guide Appendix E) to this Service Office. In these instances, potential incidental take of Indiana bats may be exempted provided that the take is reported to the Service.

If the Proposed Action is modified, or new information reveals that it may affect the Indiana bat and/or Northern long-eared bat in a manner or to an extent not considered in the PBO, further review to conclude the requirements of ESA Section 7(a)(2) may be required. If the Proposed Action may affect any other federally-listed or proposed species, and/or any designated critical habitat, additional consultation between the lead Federal action agency and this Service Office is required. If the proposed action has the potential to take bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act may also be required. In either of these circumstances, please contact this Service Office.

The following species may occur in your project area and **are not** covered by this determination:

- Mead's Milkweed, *Asclepias meadii* (Threatened)

## Project Description

The following project name and description was collected in IPaC as part of the endangered species review process.

### Name

Des. No. 1700022 US 231 at Cline Ave. Intersection Improvement Roundabout

### Description

The project is located on US 231 at Cline Avenue, 2.0 mi east of U.S. 41, in Lake County, Hanover and Center Township, Sections 2, 3, 10, 11; T-34-N, R-9-W, Saint John Quadrangle. US 231 is an east - west, two-lane roadway and is classified as Principal Arterial, Cline Avenue is a north-south, two-lane, roadway and is classified as minor Arterial. The project length is 0.38 mile.

The scope of the project is to construct a two-lane roundabout, including a new storm sewer that will collect drainage runoff to be emptied into a drainage basin in the intersection's northwest or southwest quadrant. Excavation work, up to a depth of 6-10 feet, will be necessary to complete the project.

This project is expected to require approximately 3.0 acres of additional right-of-way and 0.10 acres of temporary right-of-way. The project area is within 1000 feet of suitable summer bat habitat. A wetland is located in the southwest corner of the project area. Permanent lighting will be included with this project, and temporary lighting may be necessary and shall be directed down and away from potential bat habitat if used. No structure work is associated with this project. No tree trimming or clearing will be associated with the project.

The project's bid letting is scheduled for January 12, 2022, with construction expected to begin Spring 2022.

Maintenance of traffic will consist of detouring US 231, requiring an additional 9.4 travel miles, totaling 16.9 total miles, with an anticipated 75 day closure.

A review of the USFWS database that was performed by INDOT on May 27, 2020 did not indicate the presence of endangered bat species within 0.5 mile of the project area. An inspection of 8 maintenance pipe locations within the project area was performed by The Troyer Group on May 1, 2020. No evidence of bat or bird presence was discovered.

## Determination Key Result

Based on your answers provided, this project(s) may affect, but is not likely to adversely affect the endangered Indiana bat and/or the threatened Northern long-eared bat, therefore, consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required. However, also based on your answers provided, this project may rely on the concurrence provided in the revised February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat.

## Qualification Interview

1. Is the project within the range of the Indiana bat<sup>[1]</sup>?

[1] See [Indiana bat species profile](#)

**Automatically answered**

Yes

2. Is the project within the range of the Northern long-eared bat<sup>[1]</sup>?

[1] See [Northern long-eared bat species profile](#)

**Automatically answered**

Yes

3. Which Federal Agency is the lead for the action?

*A) Federal Highway Administration (FHWA)*

4. Are *all* project activities limited to non-construction<sup>[1]</sup> activities only? (examples of non-construction activities include: bridge/abandoned structure assessments, surveys, planning and technical studies, property inspections, and property sales)

[1] Construction refers to activities involving ground disturbance, percussive noise, and/or lighting.

No

5. Does the project include *any* activities that are **greater than** 300 feet from existing road/rail surfaces<sup>[1]</sup>?

[1] Road surface is defined as the actively used [e.g. motorized vehicles] driving surface and shoulders [may be pavement, gravel, etc.] and rail surface is defined as the edge of the actively used rail ballast.

No

6. Does the project include *any* activities **within** 0.5 miles of a known Indiana bat and/or NLEB hibernaculum<sup>[1]</sup>?

[1] For the purpose of this consultation, a hibernaculum is a site, most often a cave or mine, where bats hibernate during the winter (see suitable habitat), but could also include bridges and structures if bats are found to be hibernating there during the winter.

*No*

7. Is the project located **within** a karst area?

*No*

8. Is there *any* suitable<sup>[1]</sup> summer habitat for Indiana Bat or NLEB **within** the project action area<sup>[2]</sup>? (includes any trees suitable for maternity, roosting, foraging, or travelling habitat)

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

[2] The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR Section 402.02). Further clarification is provided by the [national consultation FAQs](#).

*Yes*

9. Will the project remove *any* suitable summer habitat<sup>[1]</sup> and/or remove/trim any existing trees **within** suitable summer habitat?

[1] See the Service's [summer survey guidance](#) for our current definitions of suitable habitat.

*No*

10. Does the project include activities **within documented Indiana bat habitat**<sup>[1][2]</sup>?

[1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry triangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

[2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

*No*

11. Does the project include activities **within documented NLEB habitat**<sup>[1][2]</sup>?

[1] Documented roosting or foraging habitat – for the purposes of this consultation, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.)

[2] For the purposes of this key, we are considering documented corridors as that where Indiana bats and/or NLEB have actually been captured and tracked to using (1) radio telemetry; or (2) treed corridors located directly between documented roosting and foraging habitat.

*No*

12. Does the project include wetland or stream protection activities associated with compensatory wetland mitigation?

*No*

13. Does the project include slash pile burning?

*No*

14. Does the project include *any* bridge removal, replacement, and/or maintenance activities (e.g., any bridge repair, retrofit, maintenance, and/or rehabilitation work)?

*No*

15. Does the project include the removal, replacement, and/or maintenance of *any* structure other than a bridge? (e.g., rest areas, offices, sheds, outbuildings, barns, parking garages, etc.)

*No*

16. Will the project involve the use of **temporary** lighting *during* the active season?

*Yes*

17. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **temporary** lighting will be used?

*Yes*

18. Will the project install new or replace existing **permanent** lighting?

*Yes*

19. Is there *any* suitable habitat **within** 1,000 feet of the location(s) where **permanent** lighting will be installed or replaced?

Yes

20. Does the project include percussives or other activities (**not including tree removal/trimming or bridge/structure work**) that will increase noise levels above existing traffic/background levels?

No

21. Are *all* project activities that are **not associated with** habitat removal, tree removal/trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives, limited to actions that DO NOT cause any additional stressors to the bat species?

Examples: lining roadways, unlighted signage , rail road crossing signals, signal lighting, and minor road repair such as asphalt fill of potholes, etc.

Yes

22. Will the project raise the road profile **above the tree canopy**?

No

23. Are the project activities that are not associated with habitat removal, tree removal/trimming, bridge and/or structure activities, temporary or permanent lighting, or use of percussives consistent with a No Effect determination in this key?

**Automatically answered**

*Yes, other project activities are limited to actions that DO NOT cause any additional stressors to the bat species as described in the BA/BO*

24. **General AMM 1**

Will the project ensure *all* operators, employees, and contractors working in areas of known or presumed bat habitat are aware of *all* FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable Avoidance and Minimization Measures?

Yes

25. **Lighting AMM 1**

Will *all* **temporary** lighting be directed away from suitable habitat during the active season?

Yes

**26. Lighting AMM 2**

Does the lead agency use the BUG (Backlight, Uplight, and Glare) system developed by the Illuminating Engineering Society<sup>[1][2]</sup> to rate the amount of light emitted in unwanted directions?

[1] Refer to [Fundamentals of Lighting - BUG Ratings](#)

[2] Refer to [The BUG System—A New Way To Control Stray Light](#)

Yes

**27. Lighting AMM 2**

Will the **permanent** lighting be designed to be as close to 0 for all three BUG ratings as possible, with a priority of "uplight" of 0 and "backlight" as low as practicable?

Yes

## Project Questionnaire

1. Have you made a No Effect determination for *all* other species indicated on the FWS IPaC generated species list?

No

2. Have you made a May Affect determination for *any* other species on the FWS IPaC generated species list?

Yes

## Avoidance And Minimization Measures (AMMs)

This determination key result includes the commitment to implement the following Avoidance and Minimization Measures (AMMs):

### GENERAL AMM 1

Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

### LIGHTING AMM 1

Direct temporary lighting away from suitable habitat during the active season.

**LIGHTING AMM 2**

When installing new or replacing existing permanent lights, use downward-facing, full cut-off lens lights (with same intensity or less for replacement lighting); or for those transportation agencies using the BUG system developed by the Illuminating Engineering Society, be as close to 0 for all three ratings with a priority of "uplight" of 0 and "backlight" as low as practicable.

## **Determination Key Description: FHWA, FRA, FTA Programmatic Consultation For Transportation Projects Affecting NLEB Or Indiana Bat**

This key was last updated in IPaC on December 02, 2019. Keys are subject to periodic revision.

This decision key is intended for projects/activities funded or authorized by the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and/or Federal Transit Administration (FTA), which may require consultation with the U.S. Fish and Wildlife Service (Service) under Section 7 of the Endangered Species Act (ESA) for the endangered **Indiana bat** (*Myotis sodalis*) and the threatened **Northern long-eared bat** (NLEB) (*Myotis septentrionalis*).

This decision key should only be used to verify project applicability with the Service's [February 5, 2018, FHWA, FRA, FTA Programmatic Biological Opinion for Transportation Projects](#). The programmatic biological opinion covers limited transportation activities that may affect either bat species, and addresses situations that are both likely and not likely to adversely affect either bat species. This decision key will assist in identifying the effect of a specific project/activity and applicability of the programmatic consultation. The programmatic biological opinion is not intended to cover all types of transportation actions. Activities outside the scope of the programmatic biological opinion, or that may affect ESA-listed species other than the Indiana bat or NLEB, or any designated critical habitat, may require additional ESA Section 7 consultation.